

Electronic Companion of  
“A speed and departure time optimization algorithm for the  
Pollution-Routing Problem”,  
by

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**Abstract**

In this paper propose a new speed and departure time optimization algorithm for the Pollution-Routing Problem (PRP), which runs in quadratic time and returns an optimal schedule. This algorithm is embedded into an iterated local search-based metaheuristic to achieve a combined speed, scheduling and routing optimization. The start of the working day is set as a decision variable for individual routes, thus enabling a better assignment of human resources to required demands. Some routes that were evaluated as unprofitable can now appear as viable candidates later in the day, leading to a larger search space and further opportunities of distance optimization via better service consolidation. Extensive computational experiments on available PRP benchmark instances demonstrate the good performance of the algorithm. The flexible departure times from the depot contribute to reduce the operational costs by 8.36% on the considered instances.

**Keywords:** Routing, Speed Optimization, Departure Optimization, Green Logistics.

This E-Companion provides the detailed results, on individual instances, for all benchmark sets considered in this paper, including the best found solutions.

Table 1: Results for the PRP with flexible departure times.  $\{10, 50\}$ -customer instances – Set A\*.

Instance	Average Results				Best Results			
	Cost	Time (s)	Distance	#Vehicles	Distance	Labor Cost	Fuel Cost	Total Cost
UK10_01-A	169.04	0.04	408.49	2.00	408.34	68.47	100.35	168.82
UK10_02-A	203.82	0.05	529.82	2.00	529.82	75.96	127.87	203.82
UK10_03-A	198.50	0.03	494.92	2.10	493.58	76.93	121.34	198.27
UK10_04-A	187.29	0.04	480.09	2.00	480.03	71.28	115.77	187.04
UK10_05-A	172.89	0.05	442.16	2.00	442.16	66.13	106.76	172.89
UK10_06-A	209.36	0.05	548.03	2.00	548.03	73.86	135.50	209.36
UK10_07-A	190.05	0.03	495.07	2.00	495.11	70.42	119.62	190.04
UK10_08-A	222.17	0.03	567.80	2.00	567.80	83.81	138.36	222.17
UK10_09-A	174.54	0.03	457.04	2.00	457.04	65.16	109.38	174.54
UK10_10-A	189.78	0.04	485.16	2.00	485.16	72.56	117.22	189.78
UK10_11-A	262.08	0.03	697.16	2.00	697.16	94.00	168.08	262.08
UK10_12-A	180.46	0.03	460.26	2.00	460.26	68.57	111.89	180.46
UK10_13-A	193.25	0.05	510.86	2.00	510.86	71.42	121.83	193.25
UK10_14-A	158.25	0.03	397.75	2.00	397.75	60.91	97.33	158.25
UK10_15-A	120.10	0.06	292.40	2.00	292.40	48.40	71.70	120.10
UK10_16-A	184.75	0.04	444.21	2.00	443.31	74.94	108.83	183.77
UK10_17-A	155.93	0.03	387.52	2.00	387.52	60.37	95.56	155.93
UK10_18-A	158.62	0.06	400.44	2.00	400.44	61.77	96.86	158.62
UK10_19-A	165.41	0.04	414.46	2.00	414.46	63.06	102.35	165.41
UK10_20-A	166.57	0.04	411.31	2.00	411.47	67.33	99.18	166.51
UK50_01-A	584.60	2.89	1361.40	7.00	1361.16	247.02	337.02	584.04
UK50_02-A	592.84	2.98	1395.63	7.00	1395.62	247.33	345.09	592.42
UK50_03-A	615.21	2.97	1435.97	7.00	1436.37	259.27	355.61	614.89
UK50_04-A	735.75	3.28	1767.63	8.00	1766.40	299.33	434.70	734.04
UK50_05-A	618.89	2.66	1488.22	6.00	1487.86	251.23	367.53	618.76
UK50_06-A	573.92	3.23	1291.62	8.00	1285.21	252.72	318.31	571.03
UK50_07-A	521.71	3.62	1199.66	7.00	1193.91	223.41	296.85	520.26
UK50_08-A	548.12	2.93	1278.29	7.00	1276.45	232.24	314.58	546.82
UK50_09-A	672.39	2.81	1596.87	7.00	1593.95	275.51	395.08	670.59
UK50_10-A	661.72	5.48	1568.67	7.00	1568.38	271.92	389.64	661.56
UK50_11-A	608.06	3.41	1441.53	7.00	1441.53	249.92	358.15	608.06
UK50_12-A	565.82	2.48	1337.30	6.90	1325.96	235.04	329.12	564.16
UK50_13-A	571.05	2.69	1326.40	7.00	1324.74	244.77	325.72	570.49
UK50_14-A	644.96	3.44	1545.82	7.00	1543.40	261.45	382.43	643.87
UK50_15-A	580.20	2.86	1375.35	6.00	1375.30	238.65	341.09	579.74
UK50_16-A	567.56	2.95	1325.41	7.00	1321.42	235.88	330.77	566.65
UK50_17-A	443.71	2.61	946.69	7.00	946.49	210.15	233.46	443.61
UK50_18-A	669.35	3.70	1568.96	8.00	1568.59	282.14	386.46	668.59
UK50_19-A	580.57	3.36	1349.32	7.00	1343.96	244.52	333.90	578.42
UK50_20-A	667.28	2.77	1580.52	7.00	1586.89	274.66	392.55	667.21

\* Instances available at <http://www.apollo.management.soton.ac.uk/prplib.htm>

Table 2: Results for the PRP with flexible departure times. {100, 200}-customer instances – Set A\*.

Instance	Average Results				Best Results			
	Cost	Time (s)	Distance	#Vehicles	Distance	Labor Cost	Fuel Cost	Total Cost
UK100_01-A	1202.06	38.96	2799.18	14.00	2792.34	504.56	696.06	1200.62
UK100_02-A	1132.52	38.66	2650.74	13.00	2650.55	475.64	655.86	1131.51
UK100_03-A	1069.80	35.36	2467.62	13.00	2463.17	457.50	610.96	1068.46
UK100_04-A	1051.22	40.80	2342.09	14.00	2337.61	466.45	582.32	1048.78
UK100_05-A	1022.91	36.33	2265.81	14.80	2253.34	459.57	559.87	1019.43
UK100_06-A	1178.94	32.30	2704.62	14.00	2692.20	503.90	670.95	1174.85
UK100_07-A	1035.95	33.84	2399.63	12.00	2400.44	439.54	595.48	1035.03
UK100_08-A	1079.23	28.97	2513.73	12.60	2507.38	455.27	622.63	1077.90
UK100_09-A	958.90	39.87	2165.14	13.00	2158.53	420.94	535.38	956.31
UK100_10-A	1043.33	30.59	2424.12	12.00	2417.49	441.57	599.88	1041.45
UK100_11-A	1176.63	45.91	2700.17	14.00	2690.40	503.85	670.00	1173.85
UK100_12-A	1016.21	34.02	2329.07	12.10	2320.61	435.18	576.73	1011.91
UK100_13-A	1117.37	30.00	2588.59	13.00	2584.88	475.28	641.25	1116.53
UK100_14-A	1232.49	32.76	2878.43	14.00	2874.49	515.77	715.56	1231.33
UK100_15-A	1285.57	38.75	2992.49	15.00	2985.37	541.67	741.31	1282.97
UK100_16-A	959.92	32.46	2181.13	12.00	2176.35	417.89	539.97	957.85
UK100_17-A	1244.67	41.38	2870.52	15.00	2865.48	530.70	711.80	1242.50
UK100_18-A	1066.41	40.26	2468.76	13.00	2457.28	451.90	609.95	1061.85
UK100_19-A	1000.07	36.03	2257.95	13.00	2256.37	439.78	558.59	998.37
UK100_20-A	1228.25	36.65	2867.52	14.00	2861.37	514.47	710.68	1225.15
UK200_01-A	2008.50	326.53	4441.83	28.00	4423.72	900.55	1101.32	2001.87
UK200_02-A	1893.68	333.54	4264.45	24.00	4234.06	828.18	1056.88	1885.06
UK200_03-A	1937.36	334.02	4254.66	27.10	4235.63	875.31	1055.96	1931.26
UK200_04-A	1837.30	367.91	4020.75	26.10	3984.55	832.40	991.80	1824.20
UK200_05-A	2088.33	353.33	4707.14	27.00	4673.73	912.53	1164.14	2076.67
UK200_06-A	1787.28	343.67	3869.17	26.90	3863.41	823.69	959.73	1783.42
UK200_07-A	1911.74	376.20	4205.10	27.00	4188.89	862.01	1042.47	1904.48
UK200_08-A	2017.05	355.17	4497.14	27.00	4483.47	894.89	1116.65	2011.54
UK200_09-A	1758.84	349.49	3852.58	25.10	3836.42	799.13	954.66	1753.79
UK200_10-A	2118.29	296.43	4764.95	27.00	4748.70	928.32	1185.04	2113.36
UK200_11-A	1829.26	329.69	3975.11	27.00	3956.89	837.16	985.42	1822.59
UK200_12-A	2054.00	302.11	4677.86	25.00	4643.94	883.55	1158.62	2042.17
UK200_13-A	2044.19	350.97	4646.19	25.00	4622.71	883.81	1153.43	2037.24
UK200_14-A	1923.99	351.64	4242.35	27.00	4226.64	865.69	1052.95	1918.64
UK200_15-A	1996.80	296.11	4495.70	25.30	4480.82	872.74	1118.36	1991.10
UK200_16-A	1972.97	345.32	4380.15	27.00	4347.67	877.75	1085.63	1963.37
UK200_17-A	2110.12	325.96	4800.06	26.00	4792.87	912.51	1194.54	2107.05
UK200_18-A	1938.75	343.26	4297.10	26.90	4274.15	867.04	1063.78	1930.82
UK200_19-A	1745.30	343.51	3830.95	25.00	3821.38	792.06	950.77	1742.83
UK200_20-A	2060.96	389.37	4637.64	26.40	4616.60	902.17	1151.45	2053.62

\* Instances available at <http://www.apollo.management.soton.ac.uk/prplib.htm>

Table 3: Results for the PRP with flexible departure times.  $\{10, 50\}$ -customer instances – Set B\*.

Instance	Average Results				Best Results			
	Cost	Time (s)	Distance	#Vehicles	Distance	Labor Cost	Fuel Cost	Total Cost
UK10_01-B	217.96	0.04	518.18	2.00	518.18	92.47	125.48	217.96
UK10_02-B	263.86	0.04	673.10	3.00	673.10	104.57	159.29	263.86
UK10_03-B	261.50	0.04	543.02	3.00	543.02	132.13	129.37	261.50
UK10_04-B	256.78	0.04	625.25	2.00	625.25	104.98	151.80	256.78
UK10_05-B	253.53	0.05	601.77	3.00	599.47	112.80	140.41	253.21
UK10_06-B	287.07	0.04	721.70	3.00	721.70	116.68	170.40	287.07
UK10_07-B	239.14	0.04	625.79	3.00	625.79	92.02	147.12	239.14
UK10_08-B	285.46	0.04	705.04	3.00	705.04	116.13	169.34	285.46
UK10_09-B	250.73	0.04	608.51	2.00	608.51	106.79	143.93	250.73
UK10_10-B	261.67	0.04	624.78	2.00	624.78	110.65	151.02	261.67
UK10_11-B	360.88	0.04	892.16	4.00	892.16	154.23	206.65	360.88
UK10_12-B	238.42	0.04	539.68	2.00	539.68	110.30	128.12	238.42
UK10_13-B	234.54	0.05	630.61	3.00	630.61	85.88	148.66	234.54
UK10_14-B	237.39	0.04	600.71	2.00	600.71	92.97	144.42	237.39
UK10_15-B	153.84	0.04	347.29	2.00	347.29	68.37	85.47	153.84
UK10_16-B	220.01	0.03	479.50	2.00	479.50	103.47	116.54	220.01
UK10_17-B	263.50	0.04	673.01	2.00	673.01	100.62	162.88	263.50
UK10_18-B	214.34	0.04	514.84	2.00	515.01	89.69	124.17	213.86
UK10_19-B	282.43	0.04	605.17	3.00	634.31	125.33	150.99	276.32
UK10_20-B	181.42	0.04	441.53	2.00	441.53	73.71	107.72	181.42
UK50_01-B	809.03	4.57	1863.99	8.00	1876.17	353.70	454.36	808.06
UK50_02-B	811.11	4.62	1873.94	7.60	1864.88	342.54	464.21	806.76
UK50_03-B	757.16	4.87	1744.34	7.40	1787.25	321.00	435.08	756.08
UK50_04-B	920.86	5.03	2084.75	8.00	2084.75	405.48	515.38	920.86
UK50_05-B	845.83	3.84	2043.42	8.00	2062.12	344.40	501.03	845.43
UK50_06-B	704.97	5.40	1610.49	8.00	1611.89	304.23	398.94	703.16
UK50_07-B	671.12	3.85	1511.64	7.00	1511.55	301.56	369.26	670.82
UK50_08-B	704.75	5.91	1669.01	7.90	1664.18	299.71	404.70	704.41
UK50_09-B	867.30	5.05	2029.66	8.00	2028.96	368.78	498.45	867.23
UK50_10-B	774.83	6.20	1842.06	8.20	1842.57	319.47	453.90	773.37
UK50_11-B	825.34	4.83	1894.45	7.00	1912.48	356.72	467.83	824.55
UK50_12-B	720.43	4.82	1671.93	7.00	1672.61	305.33	413.64	718.97
UK50_13-B	740.22	4.79	1661.48	8.00	1661.47	334.56	405.63	740.19
UK50_14-B	861.46	4.42	2041.88	7.00	2024.13	361.81	498.34	860.15
UK50_15-B	733.37	3.39	1766.63	7.00	1772.39	291.55	441.57	733.13
UK50_16-B	711.21	4.96	1592.86	7.00	1602.87	317.50	393.58	711.08
UK50_17-B	572.24	4.92	1260.61	8.00	1259.13	260.37	311.84	572.21
UK50_18-B	833.28	3.94	1953.16	8.00	1953.16	346.27	487.02	833.28
UK50_19-B	722.30	4.53	1651.21	7.40	1651.70	318.52	403.69	722.21
UK50_20-B	833.85	5.28	2005.54	8.00	2005.54	344.46	489.40	833.85

\* Instances available at <http://w1.cirrelet.ca/~vidalt/en/VRP-resources.html>

Table 4: Results for the PRP with flexible departure times. {100, 200}-customer instances – Set B\*.

Instance	Average Results				Best Results			
	Cost	Time (s)	Distance	#Vehicles	Distance	Labor Cost	Fuel Cost	Total Cost
UK100_01-B	1443.09	64.70	3387.24	14.20	3384.36	600.81	841.17	1441.98
UK100_02-B	1441.15	66.51	3384.25	13.90	3382.11	609.46	831.25	1440.71
UK100_03-B	1366.62	101.07	3150.94	13.90	3159.51	587.50	778.68	1366.18
UK100_04-B	1283.33	62.27	2846.56	14.90	2841.52	584.68	697.89	1282.57
UK100_05-B	1286.16	70.51	2837.81	15.00	2850.73	584.06	701.74	1285.79
UK100_06-B	1502.27	47.51	3281.67	14.70	3291.67	693.66	807.87	1501.53
UK100_07-B	1363.02	77.00	3105.48	13.00	3114.78	585.82	776.25	1362.07
UK100_08-B	1363.74	72.55	3205.26	13.00	3208.18	558.57	795.55	1354.12
UK100_09-B	1245.84	53.46	2837.61	13.00	2814.53	551.39	693.41	1244.80
UK100_10-B	1382.35	54.22	3117.25	13.00	3109.60	622.01	758.99	1381.00
UK100_11-B	1465.00	91.87	3401.03	15.00	3410.55	618.38	845.04	1463.42
UK100_12-B	1215.43	85.68	2801.88	13.00	2797.43	519.49	695.82	1215.31
UK100_13-B	1464.42	67.49	3324.34	13.90	3289.75	652.77	809.90	1462.67
UK100_14-B	1533.34	70.36	3615.01	14.00	3620.22	631.14	901.23	1532.37
UK100_15-B	1540.29	52.67	3599.48	15.00	3603.70	645.30	893.42	1538.71
UK100_16-B	1269.19	57.08	2886.05	13.00	2877.97	556.82	710.44	1267.26
UK100_17-B	1504.46	87.31	3431.79	15.00	3433.01	653.41	849.17	1502.59
UK100_18-B	1329.77	87.04	3055.00	13.00	3058.16	571.42	753.86	1325.27
UK100_19-B	1234.42	74.49	2770.97	14.00	2770.90	550.81	683.01	1233.83
UK100_20-B	1493.06	47.54	3379.42	14.00	3379.86	653.51	838.36	1491.87
UK200_01-B	2359.94	721.92	5263.58	28.00	5274.73	1041.83	1309.54	2351.37
UK200_02-B	2299.69	889.78	5167.31	25.00	5170.56	1012.65	1277.73	2290.38
UK200_03-B	2315.32	824.03	5129.16	28.00	5154.22	1021.02	1283.68	2304.70
UK200_04-B	2230.02	806.37	4946.63	27.00	4919.22	995.61	1216.97	2212.58
UK200_05-B	2451.01	589.33	5544.60	27.10	5517.85	1073.53	1366.82	2440.34
UK200_06-B	2140.91	633.92	4677.04	27.10	4640.02	976.22	1153.88	2130.10
UK200_07-B	2275.21	759.93	5011.73	27.20	5045.47	1014.40	1251.27	2265.67
UK200_08-B	2401.22	1002.36	5312.28	27.10	5305.92	1075.04	1316.36	2391.40
UK200_09-B	2162.26	598.56	4761.30	26.00	4742.03	982.66	1174.56	2157.22
UK200_10-B	2513.54	537.77	5678.28	28.00	5671.42	1098.10	1407.75	2505.85
UK200_11-B	2209.07	783.40	4818.89	27.20	4798.75	1009.56	1189.89	2199.45
UK200_12-B	2478.17	909.76	5612.18	25.70	5590.79	1072.59	1388.03	2460.61
UK200_13-B	2452.19	706.52	5576.57	25.80	5569.93	1063.48	1377.43	2440.91
UK200_14-B	2315.13	854.97	5148.87	27.20	5168.26	1023.95	1282.65	2306.60
UK200_15-B	2452.42	705.23	5434.14	26.00	5413.44	1106.10	1340.55	2446.65
UK200_16-B	2375.87	649.39	5272.97	27.20	5282.89	1053.85	1309.60	2363.45
UK200_17-B	2512.82	807.66	5700.23	26.40	5693.95	1079.53	1418.54	2498.07
UK200_18-B	2342.97	911.28	5243.68	27.00	5191.86	1039.94	1290.26	2330.20
UK200_19-B	2129.55	555.60	4659.02	25.20	4649.10	954.41	1154.81	2109.22
UK200_20-B	2490.97	1407.37	5611.84	27.00	5632.66	1085.67	1391.12	2476.79

\* Instances available at <http://w1.cirrelet.ca/~vidalt/en/VRP-resources.html>

Table 5: Results for the PRP with flexible departure times.  $\{10, 50\}$ -customer instances – Set C\*.

Instance	Average Results				Best Results			
	Cost	Time (s)	Distance	#Vehicles	Distance	Labor Cost	Fuel Cost	Total Cost
UK10_01-C	171.96	0.04	419.62	2.00	419.62	69.67	102.29	171.96
UK10_02-C	219.37	0.04	578.75	3.00	578.75	81.14	138.23	219.37
UK10_03-C	204.97	0.03	512.76	2.00	512.76	78.96	126.01	204.97
UK10_04-C	187.88	0.04	480.22	2.00	480.22	71.30	116.59	187.88
UK10_05-C	184.11	0.04	473.66	2.00	473.63	69.46	114.63	184.10
UK10_06-C	236.54	0.04	627.59	2.00	627.59	85.83	150.71	236.54
UK10_07-C	190.61	0.03	496.19	2.00	495.11	70.42	119.62	190.04
UK10_08-C	245.00	0.04	627.21	2.00	627.21	87.67	157.32	245.00
UK10_09-C	174.54	0.03	457.04	2.00	457.04	65.16	109.38	174.54
UK10_10-C	201.44	0.03	516.42	2.00	516.42	76.27	125.17	201.44
UK10_11-C	270.32	0.04	713.15	2.00	713.15	95.69	174.62	270.32
UK10_12-C	183.89	0.04	467.98	2.00	466.99	69.29	113.49	182.77
UK10_13-C	194.19	0.04	510.91	2.00	510.91	71.43	122.77	194.19
UK10_14-C	184.46	0.04	476.99	2.00	476.99	69.31	115.16	184.46
UK10_15-C	131.33	0.04	311.43	2.00	311.43	54.52	76.81	131.33
UK10_16-C	191.93	0.04	458.99	2.00	458.70	76.57	115.26	191.83
UK10_17-C	183.88	0.04	469.65	2.00	469.65	69.07	114.81	183.88
UK10_18-C	173.60	0.04	436.30	2.00	433.79	65.30	107.90	173.20
UK10_19-C	201.74	0.05	520.61	2.00	520.46	72.83	128.86	201.69
UK10_20-C	172.49	0.04	426.15	2.00	425.24	68.79	103.39	172.17
UK50_01-C	652.98	5.07	1496.32	7.00	1494.98	279.05	373.55	652.60
UK50_02-C	704.05	3.94	1677.35	7.00	1686.36	285.79	416.86	702.65
UK50_03-C	679.87	5.33	1554.72	8.00	1556.52	291.25	388.58	679.83
UK50_04-C	807.96	5.34	1945.62	8.00	1935.65	325.07	481.54	806.61
UK50_05-C	710.91	4.81	1715.63	7.00	1683.70	283.64	426.52	710.15
UK50_06-C	625.40	4.95	1410.42	8.00	1420.28	272.92	352.24	625.16
UK50_07-C	619.69	5.41	1432.78	7.00	1419.75	268.64	349.68	618.32
UK50_08-C	605.14	5.50	1435.88	7.00	1435.09	250.98	354.01	604.98
UK50_09-C	754.41	4.34	1793.16	7.00	1777.68	310.81	443.10	753.91
UK50_10-C	716.36	5.61	1714.00	8.00	1704.37	296.04	419.03	715.07
UK50_11-C	676.63	5.88	1575.26	7.00	1574.34	282.70	390.71	673.41
UK50_12-C	616.93	2.83	1437.71	7.00	1435.39	264.26	351.87	616.13
UK50_13-C	676.00	5.00	1574.78	7.00	1579.26	290.80	384.75	675.56
UK50_14-C	713.88	4.47	1732.80	7.00	1733.06	282.51	431.36	713.87
UK50_15-C	638.94	3.12	1529.54	7.00	1529.38	261.66	376.96	638.62
UK50_16-C	646.15	4.92	1510.69	7.00	1490.50	279.00	363.68	642.68
UK50_17-C	500.67	4.60	1066.57	7.90	1063.58	234.85	265.41	500.26
UK50_18-C	734.27	4.67	1709.84	8.00	1719.80	303.38	428.96	732.34
UK50_19-C	641.08	4.82	1491.31	7.10	1489.95	265.37	374.77	640.14
UK50_20-C	735.90	4.77	1778.22	7.20	1774.64	294.78	439.47	734.25

\* Instances available at <http://w1.cirrelet.ca/~vidalt/en/VRP-resources.html>

Table 6: Results for the PRP with flexible departure times.  $\{100, 200\}$ -customer instances – Set C\*.

Instance	Average Results				Best Results			
	Cost	Time (s)	Distance	#Vehicles	Distance	Labor Cost	Fuel Cost	Total Cost
UK100_01-C	1321.54	87.82	3079.05	14.00	3070.86	552.87	762.29	1315.16
UK100_02-C	1266.48	60.55	2960.03	13.00	2961.04	524.89	740.41	1265.30
UK100_03-C	1190.11	67.48	2714.16	13.10	2710.74	516.11	669.58	1185.69
UK100_04-C	1160.43	59.85	2617.67	14.20	2613.76	510.70	648.85	1159.54
UK100_05-C	1139.06	69.34	2568.68	15.00	2557.28	496.70	641.46	1138.16
UK100_06-C	1295.06	48.19	3006.28	14.10	2997.46	542.71	748.98	1291.69
UK100_07-C	1178.29	51.28	2741.79	12.50	2737.02	488.93	685.81	1174.73
UK100_08-C	1232.75	52.12	2883.72	13.00	2883.72	516.62	716.13	1232.75
UK100_09-C	1080.08	48.08	2455.65	13.00	2454.04	470.99	608.13	1079.12
UK100_10-C	1175.07	51.51	2753.27	12.20	2779.79	486.23	686.14	1172.36
UK100_11-C	1303.50	68.41	3018.39	14.70	3037.22	549.14	750.72	1299.85
UK100_12-C	1093.77	58.15	2520.48	12.50	2507.29	460.98	629.23	1090.21
UK100_13-C	1265.70	52.98	2953.65	13.60	2971.63	528.57	735.52	1264.08
UK100_14-C	1349.39	46.35	3143.47	14.00	3143.44	572.05	777.33	1349.38
UK100_15-C	1404.75	65.58	3227.59	15.00	3222.59	601.88	802.13	1404.02
UK100_16-C	1081.84	44.20	2484.00	12.00	2483.42	467.13	612.49	1079.62
UK100_17-C	1377.07	92.73	3164.90	15.00	3157.04	588.58	787.68	1376.26
UK100_18-C	1193.13	56.50	2779.33	13.00	2783.62	490.77	699.27	1190.04
UK100_19-C	1093.12	66.04	2456.34	13.30	2456.06	480.62	610.72	1091.34
UK100_20-C	1365.80	75.40	3144.81	14.00	3132.43	583.79	779.42	1363.20
UK200_01-C	2156.87	425.41	4820.42	28.00	4791.68	953.11	1196.77	2149.89
UK200_02-C	2072.55	569.96	4698.82	24.80	4676.49	901.63	1164.19	2065.82
UK200_03-C	2077.32	637.46	4590.43	27.30	4559.43	932.75	1136.39	2069.14
UK200_04-C	2007.42	464.31	4454.63	26.70	4436.20	890.24	1104.39	1994.63
UK200_05-C	2240.75	431.06	5072.30	27.00	5044.85	969.95	1259.58	2229.53
UK200_06-C	1954.24	399.77	4278.19	27.00	4206.84	894.21	1048.54	1942.75
UK200_07-C	2102.23	531.25	4688.45	27.00	4654.07	929.99	1156.74	2086.73
UK200_08-C	2183.58	459.53	4913.27	27.00	4859.78	963.92	1208.20	2172.12
UK200_09-C	1927.28	395.32	4261.74	25.00	4230.72	866.02	1052.12	1918.14
UK200_10-C	2251.60	395.91	5073.16	27.40	5047.51	985.72	1260.54	2246.26
UK200_11-C	1984.42	436.65	4362.90	27.00	4313.16	896.70	1070.81	1967.50
UK200_12-C	2227.03	415.86	5094.80	25.20	5063.58	955.05	1263.73	2218.78
UK200_13-C	2219.19	663.08	5062.05	25.20	5031.78	949.07	1255.33	2204.40
UK200_14-C	2098.15	469.13	4666.79	27.00	4678.21	922.63	1163.85	2086.48
UK200_15-C	2184.81	636.15	4966.75	26.00	4928.25	952.48	1222.31	2174.79
UK200_16-C	2108.19	434.67	4729.93	27.00	4717.14	923.70	1172.94	2096.64
UK200_17-C	2262.07	347.52	5165.07	26.00	5136.50	974.43	1279.21	2253.64
UK200_18-C	2085.61	471.52	4680.85	26.90	4662.91	914.40	1160.78	2075.17
UK200_19-C	1927.89	430.76	4289.56	25.00	4250.53	855.16	1054.91	1910.07
UK200_20-C	2214.44	630.38	5013.46	26.70	4963.72	958.42	1242.66	2201.07

\* Instances available at <http://w1.cirrelet.ca/~vidalt/en/VRP-resources.html>

## Best found solutions by the ILS-SP-SDTOA for the PRP with flexible departure times

**Instance: UK10.01-B, ExecTime: 0.043054s, Cost: 217.959, 2 Vehicles**

0 8 6 4 9 7 0 **speeds:** 20.9711 19.9581 15.3304 21.2708 21.2708 20.9711

0 3 10 1 5 2 0 **speeds:** 20.9711 18.5418 19.0939 19.0939 19.0939 20.9711

**Instance: UK10.01-C, ExecTime: 0.038206s, Cost: 171.956, 2 Vehicles**

0 5 2 7 9 6 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 3 10 1 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.01-A, ExecTime: 0.03568s, Cost: 168.82, 2 Vehicles**

0 5 2 4 7 6 9 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 8 1 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.02-B, ExecTime: 0.040748s, Cost: 263.858, 3 Vehicles**

0 2 7 5 1 10 0 **speeds:** 20.9711 18.1142 15.3304 15.3304 20.9711 20.9711

0 3 8 4 0 **speeds:** 20.9711 21.2985 21.2985 20.9711

0 9 6 0 **speeds:** 20.9711 15.3304 20.9711

**Instance: UK10.02-C, ExecTime: 0.034936s, Cost: 219.369, 3 Vehicles**

0 7 2 1 5 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 8 4 0 **speeds:** 20.9711 20.9711 20.9711

0 6 9 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.02-A, ExecTime: 0.057131s, Cost: 203.824, 2 Vehicles**

0 3 6 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711

0 10 5 1 2 7 4 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.03-B, ExecTime: 0.035503s, Cost: 261.495, 3 Vehicles**

0 3 5 6 4 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711

0 1 7 2 0 **speeds:** 20.9711 15.3304 20.9711 20.9711

0 8 10 9 0 **speeds:** 20.9711 15.3304 15.3304 20.9711

**Instance: UK10.03-C, ExecTime: 0.034607s, Cost: 204.972, 2 Vehicles**

0 4 5 6 10 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711



0 9 2 7 1 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.03-A, ExecTime: 0.020336s, Cost: 198.271, 2 Vehicles**

0 2 7 1 3 5 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 9 8 10 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.04-B, ExecTime: 0.040271s, Cost: 256.779, 2 Vehicles**

0 10 7 9 4 1 3 0 **speeds:** 20.9711 16.0431 20.9711 20.9711 20.9711 20.9711 20.9711

0 6 8 5 2 0 **speeds:** 20.9711 15.3304 22.7919 15.3304 20.9711

**Instance: UK10.04-C, ExecTime: 0.039311s, Cost: 187.882, 2 Vehicles**

0 9 4 7 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

0 6 3 1 5 2 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.04-A, ExecTime: 0.039861s, Cost: 187.042, 2 Vehicles**

0 6 3 1 5 2 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 7 4 9 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.05-B, ExecTime: 0.039636s, Cost: 253.21, 3 Vehicles**

0 10 9 5 0 **speeds:** 20.9711 15.3304 15.3304 20.9711

0 7 8 6 0 **speeds:** 20.9711 22.4119 22.4119 20.9711

0 1 4 3 2 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711

**Instance: UK10.05-C, ExecTime: 0.043593s, Cost: 184.098, 2 Vehicles**

0 9 5 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711

0 8 7 2 6 3 1 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.05-A, ExecTime: 0.050616s, Cost: 172.894, 2 Vehicles**

0 9 5 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711

0 6 2 4 1 3 8 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.06-B, ExecTime: 0.031298s, Cost: 287.072, 3 Vehicles**

0 10 8 5 0 **speeds:** 20.9711 19.4978 20.6341 20.9711

0 4 9 2 0 **speeds:** 20.9711 15.3304 15.3304 20.9711

0 3 6 1 7 0 **speeds:** 20.9711 20.9711 15.3304 23.121 20.9711

**Instance: UK10.06-C, ExecTime: 0.039857s, Cost: 236.541, 2 Vehicles**

0 10 5 8 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

0 7 6 1 4 9 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.06-A, ExecTime: 0.047597s, Cost: 209.364, 2 Vehicles**

0 4 9 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711

0 7 6 1 3 8 5 10 0 **speeds:** 20.9711 23.7058 23.7058 23.7058 23.7058 23.7058 23.7058 20.9711

**Instance: UK10.07-B, ExecTime: 0.03934s, Cost: 239.138, 3 Vehicles**

0 2 5 9 7 6 1 0 **speeds:** 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711

0 3 4 0 **speeds:** 20.9711 20.9711 20.9711

0 10 8 0 **speeds:** 20.9711 15.3304 20.9711

**Instance: UK10.07-C, ExecTime: 0.027719s, Cost: 190.044, 2 Vehicles**

0 4 3 0 **speeds:** 20.9711 20.9711 20.9711

0 10 8 9 7 6 1 5 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.07-A, ExecTime: 0.027526s, Cost: 190.044, 2 Vehicles**

0 4 3 0 **speeds:** 20.9711 20.9711 20.9711

0 10 8 9 7 6 1 5 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.08-B, ExecTime: 0.037599s, Cost: 285.46, 3 Vehicles**

0 7 8 3 10 0 **speeds:** 20.9711 21.5792 21.5792 21.5792 20.9711

0 6 9 1 0 **speeds:** 20.9711 15.3304 20.9711 20.9711

0 4 2 5 0 **speeds:** 20.9711 15.3304 20.9711 20.9711

**Instance: UK10.08-C, ExecTime: 0.043233s, Cost: 244.998, 2 Vehicles**

0 1 7 10 3 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 2 4 5 6 9 0 **speeds:** 20.9711 24.1965 24.1965 24.1965 24.1965 20.9711

**Instance: UK10.08-A, ExecTime: 0.028062s, Cost: 222.168, 2 Vehicles**

0 5 4 2 6 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 1 7 10 8 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.09-B, ExecTime: 0.032681s, Cost: 250.725, 2 Vehicles**

0 4 6 7 10 2 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711

0 3 5 8 1 9 0 **speeds:** 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711

**Instance: UK10.09-C, ExecTime: 0.031685s, Cost: 174.541, 2 Vehicles**

0 2 10 4 6 7 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 8 1 5 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.09-A, ExecTime: 0.019896s, Cost: 174.541, 2 Vehicles**

0 2 10 4 6 7 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 8 1 5 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.10-B, ExecTime: 0.035861s, Cost: 261.668, 2 Vehicles**

0 3 8 2 6 7 1 0 **speeds:** 20.9711 15.3304 21.7329 21.7329 21.7329 21.7329 20.9711

0 10 9 4 5 0 **speeds:** 20.9711 20.9711 17.2941 15.3304 20.9711

**Instance: UK10.10-C, ExecTime: 0.038997s, Cost: 201.439, 2 Vehicles**

0 3 10 5 4 9 0 **speeds:** 20.9711 20.9711 20.9711 17.9888 20.9711 20.9711

0 1 2 7 6 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.10-A, ExecTime: 0.027837s, Cost: 189.78, 2 Vehicles**

0 3 10 9 5 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 8 6 7 2 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.11-B, ExecTime: 0.034779s, Cost: 360.877, 4 Vehicles**

0 8 1 0 **speeds:** 20.9711 15.3304 20.9711

0 6 7 0 **speeds:** 20.9711 15.3304 20.9711

0 3 2 10 0 **speeds:** 20.9711 20.9711 15.3304 20.9711

0 9 5 4 0 **speeds:** 20.9711 17.1884 15.5326 20.9711

**Instance: UK10.11-C, ExecTime: 0.044781s, Cost: 270.315, 2 Vehicles**

0 4 5 9 7 6 2 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 3 1 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.11-A, ExecTime: 0.031377s, Cost: 262.079, 2 Vehicles**

0 6 7 9 5 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 3 2 10 1 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10\_12-B, ExecTime: 0.04337s, Cost: 238.417, 2 Vehicles**

0 2 5 1 8 4 0 **speeds:** 20.9711 21.9168 15.3304 16.5354 16.5354 20.9711  
0 10 3 7 9 6 0 **speeds:** 20.9711 17.18 17.18 15.3304 20.9711 20.9711

**Instance: UK10\_12-C, ExecTime: 0.043232s, Cost: 182.773, 2 Vehicles**

0 5 1 8 10 2 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 9 7 3 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10\_12-A, ExecTime: 0.028029s, Cost: 180.458, 2 Vehicles**

0 6 3 7 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 4 2 8 1 5 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10\_13-B, ExecTime: 0.056079s, Cost: 234.543, 3 Vehicles**

0 9 6 3 8 0 **speeds:** 20.9711 20.9711 21.5039 15.6632 20.9711  
0 4 5 0 **speeds:** 20.9711 20.9711 20.9711  
0 7 10 1 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10\_13-C, ExecTime: 0.039322s, Cost: 194.194, 2 Vehicles**

0 7 5 4 6 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 3 8 1 10 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10\_13-A, ExecTime: 0.05032s, Cost: 193.249, 2 Vehicles**

0 2 10 1 3 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 7 5 4 6 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10\_14-B, ExecTime: 0.038715s, Cost: 237.391, 2 Vehicles**

0 1 3 10 2 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711  
0 4 9 8 7 5 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 16.4113 16.4113 20.9711

**Instance: UK10\_14-C, ExecTime: 0.028117s, Cost: 184.464, 2 Vehicles**

0 6 2 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 4 9 5 8 10 3 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.14-A, ExecTime: 0.0315s, Cost: 158.246, 2 Vehicles**

0 2 7 4 9 5 8 10 3 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 6 0 **speeds:** 20.9711 20.9711

**Instance: UK10.15-B, ExecTime: 0.031853s, Cost: 153.839, 2 Vehicles**

0 7 3 10 2 5 6 4 1 9 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 24.1828 15.3304 21.5228 20.9711 20.9711  
0 8 0 **speeds:** 20.9711 20.9711

**Instance: UK10.15-C, ExecTime: 0.043811s, Cost: 131.327, 2 Vehicles**

0 5 3 10 1 6 4 2 7 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 8 0 **speeds:** 20.9711 20.9711

**Instance: UK10.15-A, ExecTime: 0.063022s, Cost: 120.102, 2 Vehicles**

0 8 0 **speeds:** 20.9711 20.9711  
0 9 7 5 10 1 4 6 2 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.16-B, ExecTime: 0.031892s, Cost: 220.008, 2 Vehicles**

0 3 10 1 8 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711  
0 2 4 6 7 5 9 0 **speeds:** 20.9711 19.9392 15.3304 15.3304 15.3304 20.9711 20.9711

**Instance: UK10.16-C, ExecTime: 0.03864s, Cost: 191.832, 2 Vehicles**

0 10 8 1 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 9 7 4 5 6 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.16-A, ExecTime: 0.037573s, Cost: 183.768, 2 Vehicles**

0 2 9 5 6 7 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 3 1 8 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10.17-B, ExecTime: 0.04015s, Cost: 263.502, 2 Vehicles**

0 6 3 5 9 8 0 **speeds:** 20.9711 21.3052 21.3052 21.3052 15.3304 20.9711  
0 2 7 1 4 10 0 **speeds:** 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711

**Instance: UK10.17-C, ExecTime: 0.034263s, Cost: 183.88, 2 Vehicles**

0 7 9 3 5 8 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 1 6 4 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10\_17-A, ExecTime: 0.035949s, Cost: 155.929, 2 Vehicles**

0 2 8 5 3 9 4 6 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 7 10 0 **speeds:** 20.9711 20.9711 20.9711

**Instance: UK10\_18-B, ExecTime: 0.037108s, Cost: 213.858, 2 Vehicles**

0 3 10 9 8 0 **speeds:** 20.9711 20.9711 20.9711 24.4055 20.9711

0 4 1 2 6 7 5 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711

**Instance: UK10\_18-C, ExecTime: 0.048579s, Cost: 173.197, 2 Vehicles**

0 5 9 1 2 6 7 4 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 8 10 0 **speeds:** 20.9711 20.9711 20.9711

**Instance: UK10\_18-A, ExecTime: 0.058839s, Cost: 158.623, 2 Vehicles**

0 9 3 0 **speeds:** 20.9711 20.9711 20.9711

0 4 8 10 7 6 2 1 5 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK10\_19-B, ExecTime: 0.050387s, Cost: 276.319, 3 Vehicles**

0 6 10 3 7 4 0 **speeds:** 20.9711 20.9711 22.1023 15.3304 20.9711 20.9711

0 5 9 8 2 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711

0 1 0 **speeds:** 20.9711 20.9711

**Instance: UK10\_19-C, ExecTime: 0.048643s, Cost: 201.691, 2 Vehicles**

0 4 3 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711

0 6 1 8 9 5 2 10 0 **speeds:** 20.9711 22.2646 22.2646 22.4064 22.4064 22.4064 22.4064 20.9711

**Instance: UK10\_19-A, ExecTime: 0.038592s, Cost: 165.414, 2 Vehicles**

0 1 10 2 5 8 9 4 3 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 6 0 **speeds:** 20.9711 20.9711

**Instance: UK10\_20-B, ExecTime: 0.040464s, Cost: 181.424, 2 Vehicles**

0 1 3 4 2 9 0 **speeds:** 20.9711 15.5725 20.9711 20.9711 20.9711 20.9711

0 6 5 10 7 8 0 **speeds:** 20.9711 20.9711 20.6833 20.6833 20.6833 20.9711

**Instance: UK10.20-C, ExecTime: 0.040894s, Cost: 172.171, 2 Vehicles**0 9 5 8 10 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.97110 6 4 3 1 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711**Instance: UK10.20-A, ExecTime: 0.034974s, Cost: 166.508, 2 Vehicles**0 9 5 8 10 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.97110 2 3 4 1 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711**Instance: UK50.01-B, ExecTime: 4.9865s, Cost: 808.058, 8 Vehicles**0 42 19 23 20 0 **speeds:** 20.9711 20.9711 20.9711 24.091 20.97110 36 35 21 45 17 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.97110 48 2 8 37 44 7 26 50 41 0 **speeds:** 20.9711 21.3362 21.3362 21.3362 15.3304 15.3304 15.3304 20.9711 20.9711 20.97110 43 10 18 11 22 39 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.97110 33 16 38 29 30 34 25 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.97110 40 49 12 5 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.97110 28 1 4 6 47 15 9 32 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.97110 13 14 24 27 46 31 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711**Instance: UK50.01-C, ExecTime: 4.14481s, Cost: 652.597, 7 Vehicles**0 17 45 35 36 21 25 13 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 21.781 21.781 21.781 20.97110 33 46 8 27 38 29 0 **speeds:** 20.9711 21.4603 20.9711 20.9711 20.9711 20.9711 20.97110 20 12 5 32 23 49 0 **speeds:** 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.97110 47 15 4 6 2 31 24 16 0 **speeds:** 20.9711 20.9711 20.9711 20.0893 20.0893 20.0893 20.0893 20.9711 20.97110 28 1 9 34 19 30 42 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.97110 3 10 40 43 22 11 18 39 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 17.3926 17.3926 15.3304 15.3304 20.97110 41 44 7 37 48 26 50 14 0 **speeds:** 20.9711 24.1265 24.1265 24.1265 24.1265 24.1265 24.1265 15.3304 20.9711**Instance: UK50.01-A, ExecTime: 2.8229s, Cost: 584.035, 7 Vehicles**0 49 3 20 39 18 11 10 40 22 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.97110 17 36 45 35 21 25 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.97110 28 23 9 1 32 5 12 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.97110 16 38 27 24 29 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.97110 42 33 30 19 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.97110 14 50 26 37 48 7 44 41 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.97110 47 15 4 6 2 31 8 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.02-B, ExecTime: 4.57393s, Cost: 806.756, 7 Vehicles**

0 26 22 16 31 47 28 17 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 19.2498 19.2498 20.9711  
0 32 19 27 41 37 44 48 12 43 0 **speeds:** 20.9711 20.9711 22.8628 22.8628 22.8628 22.8628 20.9711 20.9711 20.9711 20.9711  
0 5 8 13 23 29 2 40 0 **speeds:** 20.9711 20.9711 23.7248 23.7248 15.3304 20.9711 20.9711 20.9711  
0 7 4 15 11 18 0 **speeds:** 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 24 46 6 42 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711  
0 33 10 1 50 21 3 38 9 45 49 34 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 21.9005 21.9005 21.9005 21.9005 21.9005 20.9711  
0 20 36 14 39 25 35 30 0 **speeds:** 20.9711 23.19 23.19 15.3304 15.3304 18.6487 20.9711 20.9711

**Instance: UK50.02-C, ExecTime: 4.33534s, Cost: 702.651, 7 Vehicles**

0 18 2 40 42 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 25 20 34 14 36 39 46 0 **speeds:** 20.9711 20.9711 20.9711 17.9701 17.9701 17.9701 20.9711 20.9711  
0 22 28 47 49 26 17 30 0 **speeds:** 20.9711 20.9711 17.8364 17.8364 17.8364 17.8364 17.8364 20.9711  
0 45 9 10 21 38 50 33 31 16 24 0 **speeds:** 20.9711 19.7905 19.7905 19.7905 19.7905 19.7905 19.7905 20.9711 20.9711 20.9711  
0 5 19 13 1 3 32 6 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 4 15 7 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 29 48 44 27 41 12 37 43 8 23 0 **speeds:** 20.9711 20.9711 16.031 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.02-A, ExecTime: 2.79677s, Cost: 592.421, 7 Vehicles**

0 30 46 22 49 26 28 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 35 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 47 16 31 33 50 45 38 9 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 24 25 20 36 39 14 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 19 8 13 3 1 21 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 18 11 7 15 4 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 40 29 23 44 48 12 37 43 41 27 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.03-B, ExecTime: 6.00065s, Cost: 756.082, 8 Vehicles**

0 7 9 3 19 34 16 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711  
0 46 12 8 27 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 21 17 26 13 4 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 20 28 24 39 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 31 6 30 48 50 45 43 38 14 0 **speeds:** 20.9711 20.9448 18.1455 18.1455 18.1455 18.1455 18.1455 18.1455 20.9711 20.9711  
0 33 36 10 1 15 37 5 11 40 0 **speeds:** 20.9711 17.6859 17.6859 17.6859 17.6859 15.3304 15.3304 15.3304 20.9711 20.9711



0 44 29 35 49 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 41 2 25 22 18 23 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50\_03-C, ExecTime: 5.1777s, Cost: 679.83, 8 Vehicles**

0 16 9 19 27 3 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 46 0 **speeds:** 20.9711 20.9711 20.9711  
0 23 18 25 22 47 43 30 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 28 24 39 20 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711  
0 21 36 48 26 10 17 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 14 44 49 13 38 41 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 2 31 29 4 50 45 6 33 0 **speeds:** 20.9711 20.9711 22.8586 22.8586 20.9711 20.9711 20.9711 20.9711 20.9711  
0 12 37 5 40 1 11 15 34 7 0 **speeds:** 20.9711 24.995 24.995 24.995 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50\_03-A, ExecTime: 3.05909s, Cost: 614.885, 7 Vehicles**

0 14 41 38 49 21 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 3 27 19 9 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 33 13 6 50 43 45 47 22 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 2 31 29 4 25 18 23 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 36 32 17 10 26 48 30 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 46 39 24 28 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 7 1 40 11 5 37 15 34 12 42 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50\_04-B, ExecTime: 5.00615s, Cost: 920.856, 8 Vehicles**

0 6 35 32 45 7 14 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 22.9188 20.9711 20.9711  
0 10 28 12 36 41 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 3 16 13 11 2 49 26 19 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 19.1915 19.1915 19.1915 20.9711  
0 42 5 15 4 20 0 **speeds:** 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
0 31 43 44 46 27 30 21 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 22.6152 22.8284 22.8284  
0 38 9 22 33 8 50 0 **speeds:** 20.9711 17.1562 17.1562 17.1562 20.9711 20.9711 20.9711  
0 24 48 40 29 39 25 47 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.2593 20.9711 20.9711 20.9711  
0 18 23 17 37 1 34 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711

**Instance: UK50\_04-C, ExecTime: 5.60499s, Cost: 806.611, 8 Vehicles**

0 34 50 19 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 1 13 18 49 2 11 37 0 **speeds:** 20.9711 20.9711 16.3301 15.3304 15.3304 15.3304 20.9711 20.9711

0 39 22 33 25 9 47 38 14 0 **speeds:** 20.9711 20.9711 21.0769 21.0769 21.0769 21.0769 20.9711 20.9711 20.9711  
 0 24 35 6 40 45 32 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 27 46 15 30 31 21 0 **speeds:** 20.9711 24.5176 24.5176 24.5176 18.2182 18.8655 20.9711  
 0 42 20 5 4 43 44 16 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 48 29 23 17 26 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 28 12 10 36 41 0 **speeds:** 20.9711 15.3304 16.9512 16.9512 16.9512 20.9711

**Instance: UK50.04-A, ExecTime: 3.54302s, Cost: 734.038, 8 Vehicles**

0 20 5 15 46 27 44 43 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 14 8 33 22 6 39 35 48 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 19 34 50 38 47 9 25 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 1 3 37 11 2 13 16 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 7 26 17 18 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 41 36 0 **speeds:** 20.9711 20.9711 20.9711  
 0 24 32 29 40 45 23 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 42 31 21 28 12 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.05-B, ExecTime: 3.97967s, Cost: 845.432, 8 Vehicles**

0 3 6 31 33 50 46 40 39 7 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 18.5681 18.5681 20.8116 15.3304 20.9711 20.9711  
 0 48 14 37 30 43 23 35 0 **speeds:** 20.9711 22.1579 22.1579 15.3304 15.3304 15.3304 15.3304 20.9711  
 0 15 34 38 45 0 **speeds:** 20.9711 20.9711 17.5163 17.5163 20.9711  
 0 20 24 0 **speeds:** 20.9711 22.514 20.9711  
 0 13 28 17 36 22 18 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711  
 0 8 25 16 12 41 27 0 **speeds:** 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 21 26 19 2 1 5 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711  
 0 49 10 4 11 47 32 29 42 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.05-C, ExecTime: 4.64677s, Cost: 710.154, 7 Vehicles**

0 13 42 11 47 4 10 28 0 **speeds:** 20.9711 23.9109 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 24 0 **speeds:** 20.9711 20.9711  
 0 45 15 38 50 34 30 23 48 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 18.3138 18.3138 18.3138 21.4049 20.9711  
 0 43 37 36 44 22 14 18 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 40 33 31 6 3 46 7 20 39 0 **speeds:** 20.9711 24.6507 24.6507 24.6507 24.6507 24.6507 24.6507 24.6507 20.9711 20.9711  
 0 27 41 19 29 25 49 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 26 9 5 1 2 32 16 12 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.05-A, ExecTime: 2.95755s, Cost: 618.756, 6 Vehicles**

0 45 13 28 49 10 42 4 47 11 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 27 41 1 5 9 26 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 50 46 3 6 31 33 40 20 39 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 24 38 43 30 23 37 34 15 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 21 8 12 29 19 2 32 16 25 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 48 22 14 18 44 36 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.06-B, ExecTime: 5.79055s, Cost: 703.162, 8 Vehicles**

0 13 26 28 39 24 46 0 **speeds:** 20.9711 18.1874 18.1874 18.1874 15.3304 20.9711 20.9711  
0 30 31 17 12 16 32 0 **speeds:** 20.9711 20.9711 20.9711 20.4079 20.4079 20.4079 20.9711  
0 23 14 20 25 41 50 45 29 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 23.7489 23.7489 23.7489 20.9711  
0 38 19 40 47 22 8 5 0 **speeds:** 20.9711 19.9004 19.9004 17.0297 17.0297 17.0297 17.0297 20.9711  
0 21 35 36 49 48 33 0 **speeds:** 20.9711 20.9711 20.9711 17.7126 17.7126 20.9711 20.9711  
0 11 42 44 9 10 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 43 37 34 2 0 **speeds:** 20.9711 20.9711 20.9711 15.46 20.9711  
0 7 18 15 27 6 3 1 0 **speeds:** 20.9711 21.2503 21.2503 21.2503 21.2503 15.3304 20.9711 20.9711

**Instance: UK50.06-C, ExecTime: 4.61572s, Cost: 625.155, 8 Vehicles**

0 34 3 15 1 14 5 0 **speeds:** 20.9711 19.4492 19.4492 19.4492 19.4492 20.9711 20.9711  
0 44 18 9 6 27 7 42 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 2 43 35 37 30 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 13 31 16 26 32 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 45 50 41 20 10 25 23 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 21 12 17 24 39 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 11 36 8 22 19 40 47 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.0732 20.0732 20.9711 20.9711  
0 49 38 48 33 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.06-A, ExecTime: 3.98293s, Cost: 571.03, 8 Vehicles**

0 21 12 31 17 26 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 49 38 48 19 5 40 47 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 23 36 7 27 6 9 18 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 33 34 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 22 42 1 15 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 46 39 24 28 16 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 4 11 43 35 37 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 8 25 10 20 41 14 50 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.07-B, ExecTime: 3.98832s, Cost: 670.815, 7 Vehicles**

0 46 6 47 36 45 5 16 50 39 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 20 18 33 30 0 **speeds:** 20.9711 15.3304 16.181 16.181 20.9711  
 0 23 7 1 28 31 12 44 0 **speeds:** 20.9711 20.9711 20.9711 19.3787 15.3304 15.3304 15.3304 20.9711  
 0 40 10 35 43 8 48 37 4 15 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 14 24 19 21 49 2 38 42 41 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.4379 20.4379 20.4379 20.9711 20.9711 20.9711  
 0 26 27 32 29 22 25 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 17 11 34 9 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.07-C, ExecTime: 5.59571s, Cost: 618.321, 7 Vehicles**

0 45 47 5 39 50 16 36 18 46 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 31 41 2 38 42 24 19 21 0 **speeds:** 20.9711 20.9711 20.7061 20.7061 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 4 48 37 15 20 6 33 0 **speeds:** 20.9711 20.9711 19.3219 19.3219 19.3219 20.9711 20.9711 20.9711  
 0 40 10 11 17 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 23 43 9 25 13 35 34 0 **speeds:** 20.9711 20.9711 20.7362 20.7362 20.7362 20.9711 20.9711 20.9711  
 0 26 27 32 29 22 3 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 19.3785 19.3785 19.3785 20.9711  
 0 1 12 49 44 28 14 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711

**Instance: UK50.07-A, ExecTime: 3.10901s, Cost: 520.259, 7 Vehicles**

0 46 18 36 45 47 39 50 16 5 48 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 26 31 12 44 38 2 14 28 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 30 0 **speeds:** 20.9711 20.9711  
 0 32 29 19 21 24 42 41 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 33 6 20 15 4 10 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 11 9 43 25 22 27 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 17 34 35 13 3 8 23 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.08-B, ExecTime: 6.13882s, Cost: 704.41, 8 Vehicles**

0 19 28 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
 0 8 26 29 43 48 0 **speeds:** 20.9711 15.3304 19.4473 19.4473 19.4473 20.9711  
 0 2 15 22 27 24 50 39 0 **speeds:** 20.9711 20.1734 24.9143 24.9143 24.9143 24.9143 24.9143 20.9711

0 14 21 38 5 40 0 **speeds:** 20.9711 21.3192 21.3192 21.3192 21.3192 20.9711  
 0 46 41 18 6 36 42 4 37 0 **speeds:** 20.9711 15.3996 15.3996 15.5181 15.5181 15.5181 15.3304 15.3304 20.9711  
 0 33 30 17 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 13 32 7 23 25 16 47 49 3 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 45 20 1 9 31 44 12 11 10 0 **speeds:** 20.9711 20.9711 16.1297 16.1297 16.1297 16.1297 15.3304 18.4909 16.4751 20.9711

**Instance: UK50.08-C, ExecTime: 4.89446s, Cost: 604.982, 7 Vehicles**

0 38 15 24 50 27 22 39 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 45 31 9 12 17 44 1 20 33 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 37 42 0 **speeds:** 20.9711 20.9711 20.9711  
 0 32 30 18 49 47 25 16 41 36 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 24.1395 24.1395 20.9711 20.9711  
 0 4 46 3 23 10 11 7 34 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 26 2 21 5 14 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 35 19 28 43 29 48 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 18.0481 18.0481 20.9711

**Instance: UK50.08-A, ExecTime: 2.85672s, Cost: 546.822, 7 Vehicles**

0 26 8 2 29 43 28 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 40 14 19 48 5 21 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 18 49 47 16 25 23 10 11 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 42 15 39 24 50 27 22 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 4 46 6 41 3 34 13 32 9 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 30 17 44 1 12 20 31 33 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 37 0 **speeds:** 20.9711 20.9711

**Instance: UK50.09-B, ExecTime: 5.03749s, Cost: 867.232, 8 Vehicles**

0 30 11 28 39 45 12 1 24 0 **speeds:** 20.9711 18.5165 18.5165 21.7314 21.7314 21.7314 23.7446 23.7446 20.9711  
 0 21 33 4 26 6 31 0 **speeds:** 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
 0 16 41 40 44 32 34 17 0 **speeds:** 20.9711 20.9711 21.3256 15.3304 15.3304 15.3304 15.3304 20.9711  
 0 22 43 50 37 35 14 48 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 5 19 10 25 15 42 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 20 49 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
 0 23 8 27 13 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 29 18 7 9 38 2 3 0 **speeds:** 20.9711 20.9711 17.1816 16.817 16.817 22.7692 22.7692 20.9711

**Instance: UK50.09-C, ExecTime: 3.8069s, Cost: 753.909, 7 Vehicles**

0 29 5 10 19 25 47 18 48 0 **speeds:** 20.9711 20.9711 19.2808 19.2808 19.2808 19.2808 15.3304 15.3304 20.9711  
 0 49 35 50 37 26 36 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 23 17 45 39 44 32 40 28 41 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 23.8802 23.8802 20.9711 20.9711 20.9711 20.9711  
 0 15 42 7 38 2 9 24 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 22.5214 20.9711 20.9711  
 0 22 43 14 20 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 30 27 46 13 33 4 31 0 **speeds:** 20.9711 20.9711 20.9711 21.3455 21.3455 15.3304 20.9711 20.9711  
 0 34 16 1 12 11 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.09-A, ExecTime: 3.35327s, Cost: 670.59, 7 Vehicles**

0 14 22 43 50 37 26 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 41 32 40 44 28 39 45 27 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 23 8 11 12 34 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 29 5 48 6 20 49 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 21 13 46 33 4 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 18 47 15 7 42 25 19 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 16 1 2 9 38 24 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.10-B, ExecTime: 7.15484s, Cost: 773.365, 8 Vehicles**

0 39 28 50 34 3 47 0 **speeds:** 20.9711 20.9711 22.7579 22.7579 20.9711 20.9711 20.9711  
 0 8 25 22 9 11 0 **speeds:** 20.9711 20.9711 20.9711 21.6736 21.6736 20.9711  
 0 24 15 7 49 40 45 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 12 13 27 46 29 21 33 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 16 5 43 2 19 1 37 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 22.5695 22.5695 22.5695 20.9711 20.9711  
 0 26 20 44 32 30 6 42 0 **speeds:** 20.9711 22.1493 22.1493 22.1493 22.1493 22.1493 22.1493 20.9711  
 0 14 4 48 23 18 35 17 10 41 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
 0 38 31 0 **speeds:** 20.9711 20.9711 20.9711

**Instance: UK50.10-C, ExecTime: 5.66398s, Cost: 715.068, 8 Vehicles**

0 38 31 0 **speeds:** 20.9711 20.9711 20.9711  
 0 16 33 21 29 14 10 24 5 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 44 32 30 6 45 42 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
 0 47 3 50 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 2 28 9 22 25 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 12 20 37 36 1 11 43 39 19 0 **speeds:** 20.9711 20.0757 20.0757 20.0757 20.0757 20.0757 15.3304 15.3304 20.9711 20.9711  
 0 13 46 49 48 17 27 0 **speeds:** 20.9711 20.9711 20.9711 17.2616 20.9711 20.9711 20.9711

0 41 35 18 23 15 7 40 4 26 0 **speeds:** 20.9711 19.226 19.226 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.10-A, ExecTime: 6.15653s, Cost: 661.558, 7 Vehicles**

0 8 47 3 50 34 38 31 0 **speeds:** 20.9711 22.9061 22.9061 22.9061 22.9061 22.9061 20.9711

0 27 46 4 40 49 7 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 16 20 5 11 43 2 19 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 39 25 28 22 9 36 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 12 42 30 6 32 44 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 13 17 15 23 18 48 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 41 24 10 14 29 21 33 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.11-B, ExecTime: 4.56977s, Cost: 824.55, 7 Vehicles**

0 48 38 44 7 19 31 32 0 **speeds:** 20.9711 20.9711 15.3304 17.1456 17.1456 15.3304 18.7195 20.9711

0 6 45 41 46 30 33 3 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711

0 18 42 2 20 4 39 0 **speeds:** 22.3301 22.3301 22.3301 22.3301 20.9711 20.9711 20.9711

0 5 9 16 22 36 1 10 29 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 16.4201 20.9711 20.9711

0 24 12 28 8 49 40 25 14 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711

0 47 13 26 43 15 11 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 18.905 18.905 20.9711

0 34 35 23 27 17 37 50 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.1319 20.1319 20.9711

**Instance: UK50.11-C, ExecTime: 5.30104s, Cost: 673.407, 7 Vehicles**

0 13 15 11 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

0 47 6 21 4 33 20 39 3 43 26 0 **speeds:** 20.9711 20.9711 20.9711 22.6952 22.6952 22.6952 24.2734 24.2734 20.9711

0 37 27 40 25 8 1 5 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 14 35 30 41 42 2 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304

0 7 19 48 32 31 38 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711

0 29 22 10 36 28 16 24 9 50 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 12 49 17 23 34 46 18 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711

**Instance: UK50.11-A, ExecTime: 2.7668s, Cost: 608.064, 7 Vehicles**

0 24 16 37 28 12 36 5 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 15 11 44 19 31 48 32 7 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 29 22 10 1 8 25 40 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 18 41 30 42 45 2 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 47 6 33 20 4 39 3 43 26 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 50 0 **speeds:** 20.9711 20.9711  
0 14 35 34 46 23 17 27 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50\_12-B, ExecTime: 4.65562s, Cost: 718.969, 7 Vehicles**

0 31 12 33 24 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711  
0 17 49 9 29 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711  
0 3 5 16 1 27 48 38 46 0 **speeds:** 20.9711 20.9711 23.7653 23.7653 23.7653 20.9711 20.9711 20.9711 20.9711  
0 45 15 6 41 28 36 50 43 20 13 0 **speeds:** 20.9711 23.2175 23.2175 20.5199 15.3304 15.3304 15.3304 15.3304 24.9367 20.9711 20.9711  
0 8 47 37 32 2 14 0 **speeds:** 20.9711 20.9711 24.5763 24.5763 24.5763 24.5763 20.9711  
0 44 30 4 34 10 11 42 39 25 40 0 **speeds:** 20.9711 22.5313 22.5313 22.5313 22.5313 22.5313 15.3304 15.3304 20.9711 20.9711 20.9711  
0 35 7 19 18 23 21 22 26 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 19.117 19.117 20.9711 20.9711 20.9711

**Instance: UK50\_12-C, ExecTime: 2.66865s, Cost: 616.13, 7 Vehicles**

0 5 48 1 38 27 16 46 3 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 2 36 41 34 50 10 4 43 13 39 8 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 47 30 37 28 6 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 45 14 32 11 20 42 15 25 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 29 9 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 35 7 19 17 22 21 49 23 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 24 33 12 31 0 **speeds:** 20.9711 20.9711 20.9711 19.1489 20.9711

**Instance: UK50\_12-A, ExecTime: 2.51016s, Cost: 564.162, 6 Vehicles**

0 11 4 43 10 50 34 41 36 28 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 35 19 7 33 12 31 24 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 46 16 38 27 1 48 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 44 47 15 42 20 13 39 8 45 25 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 30 37 2 32 6 14 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 26 18 23 49 21 22 17 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50\_13-B, ExecTime: 4.97415s, Cost: 740.19, 8 Vehicles**

0 16 43 41 25 18 42 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 24.5608 20.9711  
0 3 1 9 44 23 24 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 23.1422 23.1422 20.9711  
0 12 21 17 30 22 37 45 34 0 **speeds:** 20.9711 20.9711 20.9711 17.0472 17.0472 17.0472 15.3304 20.9711 20.9711  
0 14 39 15 28 35 7 49 4 47 0 **speeds:** 20.9711 20.9711 15.3304 20.6663 20.6663 15.3304 15.3304 15.3304 20.9711 20.9711  
0 50 19 10 48 27 38 26 40 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 18.3162 15.3304 15.3304 20.9711



0 11 31 29 5 0 **speeds:** 20.9711 20.9711 18.3292 15.3304 20.9711  
0 6 2 13 32 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711  
0 8 46 20 36 33 0 **speeds:** 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711

**Instance: UK50.13-C, ExecTime: 4.84336s, Cost: 675.558, 7 Vehicles**

0 34 45 43 37 22 29 41 44 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 21.2182 21.2182 21.2182 21.2182 21.2182  
0 11 31 30 17 21 12 42 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 32 24 6 13 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 50 19 10 26 48 40 23 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
0 4 7 35 28 47 27 38 49 39 0 **speeds:** 20.9711 18.4117 18.4117 18.4117 18.4117 18.4117 18.4117 18.4117 15.3304 20.9711  
0 3 18 9 25 1 5 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 20 14 15 36 33 46 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.13-A, ExecTime: 3.01834s, Cost: 570.492, 7 Vehicles**

0 42 34 30 21 17 31 12 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 46 15 28 35 4 7 49 47 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 32 18 9 25 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 37 22 29 5 43 41 45 1 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 16 20 33 36 39 14 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 19 40 48 26 38 27 10 50 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 6 13 23 24 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.14-B, ExecTime: 4.58326s, Cost: 860.15, 7 Vehicles**

0 45 5 13 49 47 27 43 35 0 **speeds:** 20.9711 15.3304 15.3304 21.1749 21.1749 20.9711 20.9711 20.9711 20.9711  
0 32 3 25 15 10 7 19 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 17 48 31 6 2 30 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 33 38 46 26 0 **speeds:** 20.9711 20.9711 23.6669 23.6669 20.9711  
0 28 39 16 41 8 21 42 14 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 37 40 24 44 4 12 1 29 11 0 **speeds:** 20.9711 17.4685 22.4797 22.4797 22.4797 15.3304 15.3304 20.9711 20.9711 20.9711  
0 23 50 9 34 20 18 36 22 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711

**Instance: UK50.14-C, ExecTime: 4.2559s, Cost: 713.868, 7 Vehicles**

0 22 31 6 48 2 17 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 26 3 32 10 25 15 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 33 30 18 23 50 20 36 9 0 **speeds:** 20.9711 20.9711 20.9711 16.5397 16.5397 24.1057 24.1057 24.1057 20.9711



0 8 9 28 48 7 1 10 41 18 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 22 36 38 43 35 2 23 50 46 42 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 27 34 47 21 12 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.16-B, ExecTime: 5.20603s, Cost: 711.084, 7 Vehicles**

0 5 18 47 34 46 21 16 0 **speeds:** 20.9711 15.3304 15.3304 20.1679 20.1679 15.3304 15.3304 20.9711  
 0 38 33 39 30 50 48 43 14 0 **speeds:** 20.9711 17.2521 17.2521 17.2521 17.2521 17.2521 19.9053 20.9711 20.9711  
 0 24 29 9 32 25 19 7 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
 0 49 20 0 **speeds:** 20.9711 15.3304 20.9711  
 0 10 23 37 4 36 1 44 0 **speeds:** 20.9711 15.3304 17.5767 15.3304 20.9025 20.9025 17.9853 20.9711  
 0 8 2 35 41 26 3 45 0 **speeds:** 20.9711 15.3304 21.255 21.255 21.255 15.3304 15.3304 20.9711  
 0 40 42 17 22 12 13 27 6 28 15 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 17.1536 17.1536 17.1536 17.1536 20.9711 20.9711

**Instance: UK50.16-C, ExecTime: 5.06887s, Cost: 642.676, 7 Vehicles**

0 16 46 47 34 21 18 5 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 49 37 23 10 20 4 24 0 **speeds:** 20.9711 16.3518 16.3518 16.3518 16.3518 16.3518 15.3304 20.9711  
 0 8 2 26 3 35 41 45 15 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 31 17 48 50 12 6 22 7 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 11 0 **speeds:** 20.9711 20.9711  
 0 9 32 40 14 13 43 27 42 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.9354 15.9354 15.9354 15.9354 20.9711  
 0 29 1 39 33 38 19 44 25 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.16-A, ExecTime: 3.28008s, Cost: 566.649, 7 Vehicles**

0 11 0 **speeds:** 20.9711 20.9711  
 0 42 17 22 6 12 43 13 27 28 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 36 29 25 9 1 32 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 4 24 37 23 10 49 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 8 3 35 41 26 2 45 15 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 44 19 38 33 39 30 48 50 7 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 16 46 21 47 18 34 5 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.17-B, ExecTime: 6.13934s, Cost: 572.211, 8 Vehicles**

0 9 25 47 7 48 5 43 27 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 40 17 22 35 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711  
 0 6 46 33 29 28 15 50 0 **speeds:** 20.9711 20.9711 20.9711 23.2908 15.3304 20.9711 20.9711 20.9711

0 11 1 16 45 39 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 13 37 30 3 23 42 12 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 24.5618 24.5618 20.9711 20.9711  
0 31 26 19 36 10 44 49 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 21.6085 20.9711 20.9711 20.9711  
0 21 24 14 38 8 41 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 2 20 32 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.17-C, ExecTime: 4.54259s, Cost: 500.26, 7 Vehicles**

0 46 14 50 35 22 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 36 2 32 20 4 19 24 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 7 43 5 27 47 9 48 17 0 **speeds:** 20.9711 20.9711 16.8599 16.8599 16.8599 16.8599 16.8599 20.9711 20.9711  
0 18 31 12 23 30 37 45 21 0 **speeds:** 20.9711 15.3304 20.4234 20.4234 15.3304 20.9711 20.9711 20.9711 20.9711  
0 39 42 3 26 44 34 49 0 **speeds:** 20.9711 16.3988 16.3988 16.3988 16.3988 16.3988 16.3988 20.9711  
0 16 10 11 1 13 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 23.1927 20.9711  
0 28 25 29 33 15 38 41 8 0 **speeds:** 20.9711 15.6426 15.6426 17.0066 17.0066 17.0066 15.3304 20.9711 20.9711

**Instance: UK50.17-A, ExecTime: 2.6751s, Cost: 443.61, 7 Vehicles**

0 12 37 42 3 30 23 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 10 11 1 39 44 34 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 17 9 48 5 27 43 47 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 46 41 38 35 22 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 14 50 33 28 25 29 15 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 40 18 13 31 16 45 24 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 36 2 32 20 4 19 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50.18-B, ExecTime: 3.51918s, Cost: 833.28, 8 Vehicles**

0 9 7 33 37 47 12 3 1 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 24 43 19 14 26 27 8 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
0 46 17 38 6 30 22 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 41 35 18 50 42 39 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 48 13 36 25 4 45 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 11 29 15 20 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.246 20.9711  
0 23 44 10 32 49 2 0 **speeds:** 20.9711 22.5068 21.2288 21.2288 21.2288 24.1188 20.9711  
0 34 16 21 28 0 **speeds:** 20.9711 24.3417 24.3417 24.3417 20.9711

**Instance: UK50.18-C, ExecTime: 4.79716s, Cost: 732.339, 8 Vehicles**

0 21 16 34 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 22 20 15 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 5 41 11 42 29 50 18 0 **speeds:** 20.9711 20.9711 17.9821 17.9821 17.9821 20.9711 20.9711 20.9711  
 0 1 46 12 3 37 33 8 27 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 24 31 25 45 36 43 9 0 **speeds:** 20.9711 17.7124 17.7124 17.7124 20.9711 20.9711 20.9711 20.9711  
 0 4 13 19 26 14 7 48 0 **speeds:** 20.9711 20.9711 23.4438 23.4438 23.4438 23.4438 23.4438 20.9711  
 0 39 40 17 47 30 38 6 0 **speeds:** 20.9711 16.2456 16.2456 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 28 49 23 10 44 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50\_18-A, ExecTime: 3.46894s, Cost: 668.592, 8 Vehicles**

0 24 45 25 13 4 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 48 36 31 19 14 26 7 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 21 16 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
 0 40 20 15 39 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 35 18 50 42 11 41 5 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 27 8 33 37 3 12 46 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 2 34 32 44 10 23 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 22 17 47 30 38 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50\_19-B, ExecTime: 4.85689s, Cost: 722.211, 8 Vehicles**

0 23 41 12 33 8 38 6 44 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 16 14 3 29 35 22 32 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 45 47 48 46 42 13 19 24 0 **speeds:** 20.9711 21.3339 21.3339 21.3339 21.3339 15.3304 19.8007 20.9711 20.9711  
 0 39 28 10 34 26 37 21 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711  
 0 36 43 7 17 30 5 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.7038 15.7038 20.9711  
 0 50 20 15 18 49 27 0 **speeds:** 20.9711 20.9711 20.9711 15.6894 15.6894 15.6894 20.9711  
 0 40 31 11 9 1 25 4 0 **speeds:** 20.9711 24.8265 24.8265 24.8265 15.3304 21.506 21.506 20.9711  
 0 2 0 **speeds:** 20.9711 20.9711

**Instance: UK50\_19-C, ExecTime: 5.73164s, Cost: 640.142, 7 Vehicles**

0 26 50 20 40 11 49 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 19.6695 19.6695 20.9711 20.9711  
 0 15 31 27 9 38 1 23 34 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 30 5 7 17 0 **speeds:** 20.9711 15.3304 20.9711 20.9711 20.9711  
 0 32 36 43 22 45 44 37 2 0 **speeds:** 20.9711 24.2396 24.2396 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 39 48 47 19 33 24 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 41 8 12 6 28 10 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 35 29 13 42 3 46 25 4 0 **speeds:** 20.9711 20.9711 22.5609 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711

**Instance: UK50\_19-A, ExecTime: 3.19349s, Cost: 578.422, 7 Vehicles**

0 40 49 11 31 15 20 50 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 32 17 7 30 5 43 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 16 14 47 24 19 48 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 26 18 9 27 33 12 6 39 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 45 25 46 3 42 13 35 29 22 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 34 23 1 38 8 41 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 21 44 37 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50\_20-B, ExecTime: 4.68057s, Cost: 833.853, 8 Vehicles**

0 14 24 27 30 37 33 2 34 0 **speeds:** 20.9711 15.3304 22.249 22.249 22.249 22.249 19.4743 18.101 20.9711  
0 10 9 21 38 32 13 0 **speeds:** 20.9711 20.9711 19.9222 19.9222 19.9222 20.9711 20.9711  
0 45 29 12 11 44 41 6 35 0 **speeds:** 20.9711 16.7484 16.7484 16.7484 16.7484 16.7484 21.4803 20.9711  
0 48 7 26 0 **speeds:** 20.9711 20.9711 15.3304 20.9711  
0 47 40 17 31 8 4 46 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 18 15.3304 15.3304 20.9711  
0 23 39 42 20 43 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 5 25 15 28 16 22 18 0 **speeds:** 22.4388 22.4388 22.4388 20.3801 20.3801 20.3801 20.9711 20.9711  
0 36 3 49 1 19 50 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711

**Instance: UK50\_20-C, ExecTime: 4.64263s, Cost: 734.251, 7 Vehicles**

0 12 41 10 21 9 6 27 24 45 0 **speeds:** 20.9711 20.9711 20.9711 21.2779 21.2779 20.9711 20.9711 20.9711 20.9711  
0 47 40 31 8 28 15 32 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 39 49 1 43 42 36 0 **speeds:** 20.9711 22.3286 20.9711 20.9711 20.9711 20.9711 20.9711  
0 11 2 14 33 37 30 34 44 0 **speeds:** 20.9711 21.4853 21.4853 20.9711 20.9711 20.9711 20.9711 20.9711  
0 17 25 5 38 13 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.9331 20.9711  
0 23 26 7 16 4 46 22 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 29 48 50 19 3 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK50\_20-A, ExecTime: 2.63636s, Cost: 667.213, 7 Vehicles**

0 24 27 37 14 33 30 2 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 50 19 3 49 1 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 28 31 8 46 4 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 39 7 42 20 48 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 35 10 21 13 5 38 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 29 45 44 11 41 12 23 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 22 47 40 17 25 15 32 9 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_01-B, ExecTime: 59.8601s, Cost: 1441.98, 14 Vehicles**

0 6 20 54 100 15 53 52 0 **speeds:** 20.9711 20.9711 20.9711 17.407 17.407 15.3304 15.3304 20.9711  
 0 24 19 17 43 80 31 27 0 **speeds:** 20.9711 20.9711 20.5471 21.0338 21.0338 21.0338 21.0338 20.9711  
 0 37 66 29 35 21 55 0 **speeds:** 20.9711 20.9711 21.3512 21.3512 21.3512 21.3512 20.9711  
 0 90 23 12 61 47 71 39 75 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.7496 15.5767 15.5767 20.9711  
 0 92 97 9 38 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 91 70 89 73 26 22 63 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 41 78 72 4 74 59 3 0 **speeds:** 20.9711 20.9711 23.4568 23.4568 23.4568 23.4568 23.4568 20.9711  
 0 36 25 69 7 42 5 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711  
 0 64 94 18 45 57 16 84 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
 0 8 10 46 87 67 96 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
 0 95 50 32 65 14 99 44 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 76 13 33 88 62 93 68 82 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 81 30 77 11 85 1 98 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 17.6146 17.6146 20.9711 20.9711  
 0 40 51 48 49 83 2 58 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 19.7491 19.7491 20.9711

**Instance: UK100\_01-C, ExecTime: 63.6762s, Cost: 1315.16, 14 Vehicles**

0 8 66 48 29 75 35 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 9 3 69 42 25 5 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 92 60 43 1 17 19 7 24 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 19.1862 19.1862 20.9711  
 0 63 93 67 39 71 62 88 87 96 0 **speeds:** 20.9711 20.9711 19.8913 19.8913 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 84 94 18 45 73 95 28 38 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 16.844 16.844 17.8367 20.9711 20.9711  
 0 98 85 81 30 11 15 53 83 49 0 **speeds:** 20.9711 20.9711 21.2822 21.2822 21.2822 21.2822 21.2822 21.2822 15.3304 20.9711  
 0 79 0 **speeds:** 20.9711 20.9711  
 0 41 74 59 36 78 72 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 22.765 20.9711  
 0 58 40 10 46 34 82 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 14 61 47 22 26 70 65 68 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 18.995 18.995 18.995 18.995 20.9711  
 0 27 54 20 6 100 77 80 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 55 52 51 2 21 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 91 89 50 12 32 23 33 13 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 76 99 90 64 4 16 57 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100.01-A, ExecTime: 37.7902s, Cost: 1200.62, 14 Vehicles**

0 27 31 98 80 60 24 92 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 3 69 42 25 5 7 19 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 79 0 **speeds:** 20.9711 20.9711

0 90 95 89 73 45 18 94 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 51 53 83 49 48 2 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 28 38 78 36 74 59 9 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 11 30 81 85 1 17 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 64 86 84 16 57 72 4 41 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 58 10 35 75 29 66 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 14 65 32 26 70 50 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 82 44 99 76 34 8 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 77 100 54 20 6 15 52 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 68 63 23 12 61 22 47 88 33 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 96 67 93 87 62 71 39 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100.02-B, ExecTime: 74.1083s, Cost: 1440.71, 14 Vehicles**

0 67 36 37 62 73 60 93 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 87 46 100 74 63 48 0 **speeds:** 20.9711 15.6807 15.6807 15.6807 15.6807 15.6807 20.9711

0 56 81 1 79 21 57 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711

0 72 8 75 32 15 84 44 59 86 0 **speeds:** 20.9711 20.9711 17.2217 17.2217 17.2217 20.9711 20.9711 20.9711 20.9711 20.9711

0 69 77 53 45 7 65 96 89 58 95 0 **speeds:** 20.9711 20.9711 20.9711 21.9854 17.4726 17.4726 17.4726 17.4726 17.4726 20.9711

0 16 94 23 88 80 38 0 **speeds:** 20.9711 16.3055 16.3055 20.9711 20.9711 20.9711 20.9711

0 68 76 3 12 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 39 82 25 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

0 35 49 61 18 97 47 54 10 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711

0 22 14 92 43 11 13 71 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 21.983 21.983 21.983 21.983

0 29 52 55 34 64 33 78 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 98 40 91 41 5 30 20 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711

0 9 6 66 28 42 4 24 99 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711

0 19 51 70 85 50 2 27 0 **speeds:** 20.9711 20.9711 22.144 16.8298 16.8298 16.8298 20.9711 20.9711

**Instance: UK100.02-C, ExecTime: 49.9581s, Cost: 1265.3, 13 Vehicles**



0 95 4 58 66 89 28 42 24 99 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 48 46 87 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 82 63 30 41 5 43 71 0 **speeds:** 20.9711 20.9711 20.9711 22.5383 22.5383 22.5383 20.9711 20.9711  
0 93 60 73 37 61 18 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 86 59 38 8 69 15 6 9 25 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 70 2 85 27 57 50 56 19 29 0 **speeds:** 20.9711 22.3677 22.3677 22.3677 22.3677 24.7316 24.7316 24.7316 20.9711 20.9711  
0 32 84 96 77 65 7 53 44 75 0 **speeds:** 20.9711 20.9711 20.9711 18.0673 18.0673 18.0673 18.0673 18.0673 15.3304 20.9711  
0 45 13 88 23 80 94 16 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 39 74 10 22 49 14 40 100 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 34 64 33 68 76 12 31 72 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 90 3 55 52 51 78 83 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 19.4349 19.4349 20.9711 20.9711  
0 79 1 21 81 17 62 36 67 0 **speeds:** 20.9711 20.9711 20.9711 21.0315 21.0315 21.0315 21.0315 21.0315 20.9711  
0 11 26 91 20 92 97 54 98 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711

**Instance: UK100.02-A, ExecTime: 33.2276s, Cost: 1131.51, 13 Vehicles**

0 22 49 43 91 26 11 71 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 3 52 64 33 68 76 24 99 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 83 29 34 78 55 51 70 2 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 67 36 62 60 93 17 81 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 39 56 79 1 57 50 27 19 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 87 72 31 12 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 98 14 20 92 5 41 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 86 46 48 100 74 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 63 59 38 8 69 15 95 25 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 82 9 4 42 28 66 89 58 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 10 40 54 97 18 61 37 73 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 35 16 13 23 88 80 45 53 75 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 32 84 44 96 77 65 7 94 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100.03-B, ExecTime: 119.353s, Cost: 1366.18, 14 Vehicles**

0 88 18 82 26 94 48 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711  
0 87 52 61 90 62 98 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
0 10 80 55 21 51 57 45 78 11 0 **speeds:** 20.9711 19.445 19.445 19.445 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 49 47 33 0 **speeds:** 20.9711 15.3304 20.634 20.9711  
0 31 66 77 83 38 60 6 4 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711

0 14 9 70 76 56 0 **speeds:** 20.9711 22.2286 22.2286 20.9711 20.9711 20.9711  
0 3 39 34 8 40 0 **speeds:** 20.9711 15.3304 24.6154 15.3304 15.3304 20.9711  
0 99 79 24 65 13 53 81 0 **speeds:** 20.9711 21.5034 21.5034 21.5034 21.5034 21.5034 20.9711  
0 37 22 27 89 97 42 7 15 5 0 **speeds:** 20.9711 20.9711 20.9711 22.9544 22.9544 22.9544 24.6779 24.6779 24.6779  
0 100 73 44 28 50 20 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
0 72 12 30 75 86 68 96 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 17.9251 17.9251 20.9711  
0 59 32 23 71 1 93 17 36 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 54 92 67 84 29 35 41 25 19 63 0 **speeds:** 20.9711 15.3304 17.2774 17.2774 17.2774 17.2774 15.3304 20.9711 20.9711 20.9711 20.9711  
0 16 69 74 2 46 85 64 95 58 0 **speeds:** 20.9711 20.9711 17.5093 17.5093 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711

**Instance: UK100\_03-C, ExecTime: 70.8255s, Cost: 1185.69, 13 Vehicles**

0 34 47 49 33 3 39 0 **speeds:** 20.9711 15.7346 15.7346 15.3304 15.3304 15.3304 20.9711  
0 94 48 88 18 82 26 81 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 37 20 53 73 70 9 22 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 43 63 19 96 86 38 41 30 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 78 98 62 90 10 45 52 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 21.9438 20.9711  
0 14 72 36 75 1 25 17 83 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 67 92 54 50 28 7 44 13 76 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 55 4 21 6 2 57 51 74 95 80 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.677 20.677 20.677 20.677 20.677 20.9711 20.9711  
0 61 11 40 87 8 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711  
0 12 71 93 35 89 97 42 65 32 27 66 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 100 29 15 5 84 91 0 **speeds:** 20.9711 20.9711 16.8898 16.8898 15.3304 20.9711 20.9711  
0 68 69 64 46 85 60 58 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 99 79 59 23 24 56 0 **speeds:** 20.9711 17.0274 17.0274 17.0274 20.9711 20.9711 20.9711

**Instance: UK100\_03-A, ExecTime: 34.7379s, Cost: 1068.46, 13 Vehicles**

0 66 12 17 1 71 30 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 76 13 42 44 7 97 89 35 93 41 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 9 70 24 23 65 32 27 59 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 68 69 95 74 2 57 51 4 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 99 79 56 77 22 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 15 28 50 54 92 67 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 37 100 73 29 84 53 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 26 82 18 88 48 94 81 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 31 25 75 38 96 19 63 43 72 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 61 52 78 80 45 10 90 62 98 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 86 60 85 46 64 6 21 58 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 11 40 87 8 34 39 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 3 33 47 49 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100.04-B, ExecTime: 57.137s, Cost: 1282.57, 15 Vehicles**

0 90 52 46 99 10 13 58 53 0 **speeds:** 20.9711 20.9711 19.5487 19.5487 19.5487 20.9711 20.9711 20.9711 20.9711  
 0 75 71 29 0 **speeds:** 20.9711 15.3304 15.3304 20.9711  
 0 86 98 61 70 45 24 0 **speeds:** 20.9711 20.9711 18.4128 18.4128 18.4128 18.4128 20.9711  
 0 5 83 15 35 65 77 82 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
 0 59 64 44 50 36 21 30 0 **speeds:** 20.9711 20.9711 15.3304 19.9272 19.9272 19.9272 20.9711 20.9711  
 0 48 57 28 47 27 89 39 78 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
 0 34 80 76 88 51 17 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
 0 26 32 42 38 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 20 79 84 96 92 56 91 0 **speeds:** 20.9711 15.3304 17.3423 16.5011 15.3304 15.3304 20.9711 20.9711  
 0 12 100 87 40 95 67 25 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 33 6 94 8 54 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 93 97 69 72 19 22 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 55 2 81 16 9 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 68 43 31 62 73 74 23 18 4 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 11 63 85 7 41 66 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100.04-C, ExecTime: 58.3403s, Cost: 1159.54, 14 Vehicles**

0 94 16 9 30 100 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 60 73 74 31 62 23 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 23.8573 23.8573 20.9711  
 0 34 76 80 26 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 61 38 86 90 46 52 45 0 **speeds:** 20.9711 20.9711 20.9711 21.886 21.886 21.886 20.9711 20.9711  
 0 12 22 55 37 36 2 21 81 0 **speeds:** 20.9711 20.1774 20.1774 20.1774 20.9711 20.9711 20.9711 20.9711  
 0 59 72 50 19 44 64 88 51 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 17.0906 17.0906 15.3304 20.9711  
 0 66 85 7 95 8 49 0 **speeds:** 20.9711 15.3304 17.4382 17.4382 20.9711 20.9711 20.9711  
 0 53 91 96 47 92 28 98 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 54 25 67 63 41 40 87 33 0 **speeds:** 20.9711 20.4773 20.4773 20.4773 20.4773 20.4773 21.8763 21.8763 20.9711  
 0 57 10 35 5 83 15 43 4 3 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 17 84 78 39 42 20 58 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 21.8051 21.8051 21.8051 20.9711  
 0 79 56 27 89 77 65 99 82 48 0 **speeds:** 20.9711 17.3403 17.3403 17.3403 17.3403 17.3403 20.9711 20.9711 20.9711 20.9711

0 24 1 70 13 68 75 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 17.3567 17.3567 20.9711  
0 71 11 6 14 69 97 93 0 **speeds:** 20.9711 17.3296 17.3296 17.3296 17.3296 17.3296 17.3296 20.9711

**Instance: UK100\_04-A, ExecTime: 39.6432s, Cost: 1048.78, 14 Vehicles**

0 33 87 40 41 85 7 95 67 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 57 10 27 92 47 56 96 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 9 16 81 2 21 36 37 12 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 93 14 100 30 6 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 84 78 39 89 77 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 3 73 74 62 31 43 23 18 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 45 52 60 46 90 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 1 38 48 70 13 98 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 28 65 35 5 83 15 99 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 24 68 75 49 71 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 34 80 88 76 72 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 54 25 63 8 66 94 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 17 51 26 32 79 20 58 53 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 59 69 50 19 22 55 64 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_05-B, ExecTime: 68.8001s, Cost: 1285.79, 15 Vehicles**

0 100 31 35 40 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 20 93 17 67 7 72 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 26 18 74 88 44 11 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 98 79 55 92 75 69 57 52 32 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 17.7187 17.7187 20.9711  
0 89 1 46 33 77 59 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 24 42 22 30 84 16 82 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 38 5 8 41 29 94 80 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 2 56 4 3 60 48 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 19 45 91 95 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 21 37 36 81 73 49 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 85 27 99 66 63 15 62 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711  
0 65 61 51 28 6 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 64 13 34 39 68 23 54 83 0 **speeds:** 20.9711 20.9711 20.9711 16.8064 15.3304 20.9711 20.9711 20.9711  
0 58 76 87 50 78 96 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 12 70 90 9 86 47 53 71 25 0 **speeds:** 20.9711 20.9711 18.195 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711

**Instance: UK100.05-C, ExecTime: 82.5802s, Cost: 1138.16, 15 Vehicles**

0 82 81 4 3 73 60 56 0 **speeds:** 20.9711 20.9711 20.9711 21.9337 21.9337 20.9711 20.9711 20.9711  
0 21 61 100 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 71 53 17 64 87 25 51 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 42 10 49 36 2 48 22 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 19 85 62 95 72 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 27 38 89 15 7 91 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 24 99 46 41 29 94 33 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 19.0967 19.0967 20.9711 20.9711  
0 28 20 76 26 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 31 35 40 74 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 65 43 18 88 84 37 30 16 11 0 **speeds:** 20.9711 21.6142 21.6142 21.6142 21.6142 15.3304 15.3304 15.3304 20.9711 20.9711  
0 1 77 66 59 80 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 93 39 34 47 67 90 58 0 **speeds:** 20.9711 24.7903 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 12 13 83 78 50 96 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 63 5 79 32 75 23 54 68 98 0 **speeds:** 20.9711 20.9711 21.0748 21.0748 21.0748 21.0748 21.0748 21.0748 20.9711  
0 8 55 92 52 57 69 9 86 70 0 **speeds:** 20.9711 23.9911 23.9911 23.9911 23.9911 23.9911 23.9911 15.3304 20.9711 20.9711

**Instance: UK100.05-A, ExecTime: 35.3008s, Cost: 1019.43, 14 Vehicles**

0 98 69 75 57 32 52 79 92 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 45 66 77 5 63 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 25 93 87 64 17 53 13 71 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 65 31 35 43 40 100 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 51 18 74 88 37 84 30 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 21 16 48 2 36 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 19 27 38 89 62 85 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 96 50 78 39 68 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 90 67 86 47 34 54 23 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 58 12 72 95 7 91 15 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 97 76 20 28 26 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 33 46 8 41 94 29 99 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 56 60 73 3 81 4 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 44 11 22 10 42 80 24 59 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100.06-B, ExecTime: 50.3331s, Cost: 1501.53, 14 Vehicles**

0 15 95 58 1 11 4 19 100 0 **speeds:** 20.9711 20.9711 20.9711 24.3675 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 23 2 9 94 59 67 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 54 71 24 43 14 65 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711  
 0 61 50 84 53 21 6 0 **speeds:** 20.9711 19.1071 19.1071 19.1071 15.3304 20.9711 20.9711  
 0 26 22 60 77 96 72 52 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 90 97 25 45 8 66 82 48 0 **speeds:** 20.9711 20.9711 18.1255 18.1255 17.5901 17.5901 17.5901 17.5901 20.9711  
 0 87 49 17 35 28 3 37 0 **speeds:** 20.9711 17.1417 17.1417 19.4958 19.4958 15.3304 20.9711 20.9711  
 0 5 92 44 16 76 20 69 0 **speeds:** 20.9711 20.5691 15.3304 15.3304 18.8982 18.8982 20.9711 20.9711  
 0 30 10 93 55 27 86 89 41 33 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 17.0918 17.0918 20.9711  
 0 91 36 12 13 73 38 18 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 46 99 75 29 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 34 62 42 7 39 83 40 51 0 **speeds:** 20.9711 20.9711 22.9401 17.3466 17.3466 15.3304 15.3304 20.9711 20.9711  
 0 64 85 56 88 31 57 32 68 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 74 81 47 98 80 63 70 78 0 **speeds:** 20.9711 20.9711 16.7135 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711

**Instance: UK100\_06-C, ExecTime: 42.4627s, Cost: 1291.69, 14 Vehicles**

0 84 6 67 1 21 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 69 76 20 35 17 28 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 81 36 13 73 38 88 91 12 31 0 **speeds:** 20.9711 19.5305 19.5305 19.673 19.673 19.673 19.673 20.9711 20.9711 20.9711  
 0 65 43 14 54 71 24 0 **speeds:** 20.9711 15.3866 15.3866 15.3866 15.3866 20.9711 20.9711  
 0 29 75 99 15 100 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 34 70 7 63 42 78 98 68 74 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 95 2 9 94 58 53 59 0 **speeds:** 20.9711 21.7725 21.7725 21.7725 21.7725 20.9711 20.9711 20.9711  
 0 85 82 66 48 87 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 62 30 40 93 80 47 32 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 19.9502 20.9711 20.9711 20.9711  
 0 10 39 83 27 33 55 51 0 **speeds:** 20.9711 20.9711 17.9571 17.9571 17.9571 17.9571 17.9571 20.9711  
 0 49 3 16 92 44 5 23 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 24.5833 24.5833 20.9711  
 0 52 72 22 77 60 96 26 0 **speeds:** 20.9711 20.9711 20.2617 20.2617 20.2617 20.2617 20.9711 20.9711  
 0 79 19 50 89 86 4 41 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 64 18 8 56 45 25 57 0 **speeds:** 20.9711 20.9711 23.136 23.136 23.136 23.136 23.136 20.9711

**Instance: UK100\_06-A, ExecTime: 32.1977s, Cost: 1174.85, 14 Vehicles**

0 31 12 73 13 36 65 38 88 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 74 68 34 70 47 81 32 57 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 66 54 71 24 14 43 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 30 51 83 93 40 39 10 62 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 79 61 63 7 42 78 80 98 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 85 82 48 87 37 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 64 25 45 18 8 56 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 19 84 11 21 1 67 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 95 9 94 58 53 59 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 52 23 96 16 92 44 5 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 26 72 60 77 22 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 99 75 29 15 100 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 4 50 89 86 41 33 27 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 69 76 20 35 17 49 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_07-B, ExecTime: 72.2166s, Cost: 1362.07, 13 Vehicles**

0 8 40 99 61 75 37 82 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 84 28 22 25 39 67 18 44 0 **speeds:** 20.9711 24.1213 24.1213 24.1213 24.1213 15.3304 23.4448 15.3304 20.9711  
0 95 96 98 50 5 46 45 52 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 55 76 73 13 85 30 0 **speeds:** 20.9711 20.9711 20.9711 24.0557 24.0557 20.9711 20.9711  
0 64 35 15 7 41 59 100 6 14 57 0 **speeds:** 20.9711 15.3304 17.3639 17.3639 17.3639 17.3639 17.3639 20.9711 20.9711 20.9711 20.9711  
0 49 58 33 17 86 9 11 0 **speeds:** 20.9711 20.9711 20.0083 20.0083 20.0083 20.0083 20.0083 20.9711  
0 69 68 94 63 54 77 36 1 71 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 21.9929 21.9929 21.9929  
0 47 70 56 81 89 19 48 53 38 0 **speeds:** 20.9711 20.9711 20.0099 20.0099 20.0099 20.0099 20.9711 20.9711 20.9711 20.9711  
0 29 23 43 87 24 4 92 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 74 10 90 32 31 97 66 91 0 **speeds:** 20.9711 18.5302 18.5302 18.5302 15.3304 18.6251 18.6251 18.6251 20.9711  
0 79 88 51 21 12 65 80 20 42 78 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 21.5205 21.5205 21.5205 21.5205 20.9711  
0 60 83 3 0 **speeds:** 20.9711 15.3304 20.9711 20.9711  
0 34 2 26 72 93 27 62 16 0 **speeds:** 20.9711 20.9711 23.3739 21.0152 21.0152 21.0152 20.9711 20.9711 20.9711

**Instance: UK100\_07-C, ExecTime: 52.4466s, Cost: 1174.73, 12 Vehicles**

0 49 68 17 36 19 1 71 88 54 51 77 63 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 22.7162 16.3825 16.3825 16.3825 16.3825 20.9711 20.9711  
0 84 44 18 22 20 42 67 69 81 0 **speeds:** 20.9711 20.9711 22.0676 22.0676 22.0676 22.0676 22.2333 22.2333 20.9711 20.9711  
0 34 58 94 27 21 12 65 25 80 39 0 **speeds:** 20.9711 22.0987 22.0987 22.0987 22.0987 22.0987 22.0987 22.0987 22.0987 20.9711 20.9711  
0 97 32 57 10 90 14 100 35 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 70 48 56 16 62 33 93 72 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 52 3 30 91 47 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 2 89 86 9 11 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 99 37 78 87 4 29 0 **speeds:** 20.9711 20.9711 24.5813 24.5813 24.5813 24.5813 20.9711  
 0 45 50 5 46 40 61 75 95 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 83 59 64 15 6 7 41 98 96 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 24 28 8 43 23 82 92 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 53 74 66 85 76 73 13 55 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711

**Instance: UK100\_07-A, ExecTime: 35.7445s, Cost: 1035.03, 12 Vehicles**

0 38 70 48 53 74 85 66 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 64 59 41 7 6 15 100 35 14 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 81 2 89 86 9 11 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 82 23 37 75 61 99 40 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 60 92 95 98 5 50 96 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 56 79 71 1 19 36 88 54 51 77 27 58 68 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 24 4 87 8 43 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 52 83 3 30 91 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 18 80 25 65 12 21 63 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 26 16 33 62 93 94 72 69 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 97 76 13 73 10 57 31 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 84 44 22 39 67 20 42 78 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_08-B, ExecTime: 67.7277s, Cost: 1354.12, 13 Vehicles**

0 32 98 23 92 43 69 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 22.8639 20.9711 20.9711  
 0 81 80 96 1 62 57 54 7 6 10 0 **speeds:** 20.9711 19.1371 19.1371 19.1371 19.1371 19.1371 19.1371 15.3304 15.3304 20.9711 20.9711  
 0 5 34 91 47 64 68 42 74 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 24.8753 20.9711 20.9711  
 0 59 15 25 19 51 3 48 8 0 **speeds:** 20.9711 22.7538 22.7538 22.7538 22.7538 22.7538 22.7538 15.3304 20.9711  
 0 97 66 52 21 58 88 2 87 0 **speeds:** 20.9711 17.3099 17.3099 17.3099 17.3099 22.8597 22.8597 22.8597 20.9711  
 0 20 85 38 49 39 12 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 67 100 53 14 90 73 26 0 **speeds:** 20.9711 20.9711 20.9711 21.5276 20.7421 18.7285 18.7285 20.9711  
 0 94 89 11 44 45 55 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 17 24 84 50 83 70 71 79 35 95 33 0 **speeds:** 20.9711 20.9711 15.3304 18.623 18.623 18.623 18.623 15.3304 15.3304 20.4275 20.4275 20.9711  
 0 93 27 31 65 41 78 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
 0 46 22 72 76 77 63 29 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 24.1433 20.9711 20.9711 20.9711 20.9711  
 0 86 13 40 60 82 37 56 4 0 **speeds:** 20.9711 21.555 21.555 15.7971 15.7971 15.3304 15.3304 20.9711 20.9711  
 0 30 99 75 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711



**Instance: UK100\_08-C, ExecTime: 47.6611s, Cost: 1232.75, 13 Vehicles**

0 97 12 49 21 20 58 22 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 65 90 73 27 31 0 **speeds:** 20.9711 20.9711 19.3377 19.3377 15.3304 20.9711  
0 26 10 92 43 32 69 80 93 0 **speeds:** 20.9711 20.9711 20.9711 21.3768 21.3768 17.1358 17.1358 17.1358 20.9711  
0 81 96 98 23 62 1 57 6 54 7 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 61 53 99 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 41 78 59 19 51 25 15 14 75 0 **speeds:** 20.9711 19.7103 19.7103 19.7103 19.7103 19.7103 19.7103 20.9711 20.9711  
0 47 86 68 64 88 2 66 87 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 13 42 29 40 60 28 77 89 94 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 95 79 24 17 3 44 16 100 67 0 **speeds:** 20.9711 22.9849 16.404 16.404 16.404 16.3488 20.9711 20.9711 20.9711 20.9711  
0 76 45 48 11 55 36 0 **speeds:** 20.9711 20.9711 17.5431 17.5431 17.5431 17.5431 20.9711  
0 63 33 50 83 70 35 84 71 8 30 0 **speeds:** 20.9711 16.04 16.04 16.04 16.04 20.9711 20.9711 20.9711 20.9711 20.9711  
0 46 74 56 82 37 4 72 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 91 9 85 38 39 34 52 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_08-A, ExecTime: 30.5391s, Cost: 1077.9, 12 Vehicles**

0 10 54 6 57 1 62 23 98 43 92 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 61 18 27 31 65 75 53 67 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 80 26 69 32 73 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 97 66 86 68 64 88 87 74 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 36 55 11 48 8 76 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 94 45 24 71 33 63 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 99 30 46 22 81 93 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 72 4 60 70 83 50 95 79 35 84 17 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 52 91 9 12 85 34 5 47 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 16 41 78 14 15 19 25 51 44 59 100 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 58 20 21 38 49 39 7 96 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 13 42 56 82 37 40 29 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_09-B, ExecTime: 40.8227s, Cost: 1244.8, 13 Vehicles**

0 86 70 54 72 2 20 94 28 75 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 30 47 33 96 15 63 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 51 21 88 34 39 95 78 87 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 19 26 92 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 7 22 71 91 14 80 83 43 42 0 **speeds:** 20.9711 20.9711 15.6141 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711

0 50 93 32 46 73 3 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 64 55 97 41 79 31 17 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 16.5449 20.9711 20.9711 20.9711  
0 37 62 100 25 77 81 6 59 99 35 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 22.9929 15.3304 15.3304 20.9711 20.9711 20.9711  
0 49 13 38 8 36 82 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 22.8986 22.8986 22.8986 20.9711  
0 53 90 56 84 10 61 9 23 12 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 22.8982 20.9711 20.9711 20.9711  
0 48 66 67 11 16 98 68 40 58 24 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 24.5275 24.5275 15.3304 19.7155 15.3304 20.9711 20.9711  
0 52 76 44 74 69 29 65 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 1 57 27 85 45 60 5 0 **speeds:** 20.9711 20.6578 18.422 18.422 15.3304 17.283 20.7787 20.9711

**Instance: UK100.09-C, ExecTime: 42.5031s, Cost: 1079.12, 13 Vehicles**

0 30 32 50 93 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 74 38 13 36 84 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 49 69 8 82 56 61 10 89 23 29 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 21 37 5 99 88 34 51 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 63 17 79 44 75 86 15 48 0 **speeds:** 20.9711 19.809 19.809 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 46 1 97 58 24 52 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 73 57 60 27 85 64 55 45 0 **speeds:** 20.9711 20.9711 20.9711 20.0698 20.0698 20.0698 20.0698 20.0698 20.9711  
0 41 72 54 2 11 20 67 94 70 28 0 **speeds:** 20.9711 19.4228 19.4228 19.4228 19.4228 19.4228 19.4228 19.4228 20.9711 20.9711  
0 83 14 42 65 7 80 22 91 43 71 0 **speeds:** 20.9711 20.9711 15.8193 15.8193 15.8193 15.8193 15.8193 15.3304 15.3304 20.9711  
0 78 62 59 35 77 25 6 100 81 0 **speeds:** 20.9711 15.3304 19.5778 19.5778 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 3 31 76 33 47 96 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 92 95 87 19 26 39 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 40 66 68 16 90 53 98 12 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100.09-A, ExecTime: 40.6522s, Cost: 956.31, 13 Vehicles**

0 45 57 85 64 27 60 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 78 62 59 6 81 100 25 77 35 99 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 15 96 76 33 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 63 32 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 66 67 20 11 70 94 2 54 72 58 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 39 26 80 22 91 43 71 14 42 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 93 50 3 5 37 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 40 68 98 53 16 90 61 56 10 9 23 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 74 49 38 69 29 65 7 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 12 89 84 82 36 8 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 52 31 24 97 55 46 73 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 51 34 88 87 95 19 92 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 48 75 44 41 28 79 86 17 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_10-B, ExecTime: 60.1099s, Cost: 1381, 13 Vehicles**

0 56 48 9 38 63 3 53 43 68 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 36 52 58 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 92 42 75 25 50 32 41 22 47 21 91 40 66 0 **speeds:** 20.9711 20.9711 21.2112 21.2112 21.2112 21.2112 16.452 16.452 16.452 16.452 16.452 16.452 20.9711  
0 84 99 67 29 24 73 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
0 77 79 12 14 20 55 7 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
0 18 98 93 81 1 95 49 90 0 **speeds:** 20.9711 20.9711 24.3123 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 83 45 64 34 2 6 59 78 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 19.0368 20.9711  
0 94 33 27 26 82 87 71 39 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 16.1949 16.1949 16.1949 16.1949 20.9711  
0 35 65 89 61 54 97 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 21.44 21.44 20.9711  
0 37 5 69 10 76 74 31 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 22.9519 15.3304 15.3304 20.9711  
0 62 30 28 100 16 51 60 44 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 22.2232 22.2232 22.2232 22.2232  
0 13 80 96 57 11 17 0 **speeds:** 20.9711 23.1579 23.1579 23.1579 23.1579 21.4928 20.9711  
0 15 86 72 19 4 85 46 23 8 88 0 **speeds:** 20.9711 23.2827 23.2827 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711

**Instance: UK100\_10-C, ExecTime: 52.2643s, Cost: 1172.36, 12 Vehicles**

0 97 62 7 77 16 100 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 66 22 91 32 40 99 67 84 23 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 15 25 24 29 88 46 85 8 50 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 23.6647 23.6647 20.9711 20.9711 20.9711  
0 36 92 52 49 81 1 75 47 41 21 0 **speeds:** 20.9711 20.9711 20.9711 23.2159 23.2159 23.2159 23.2159 23.2159 20.9711 20.9711 20.9711  
0 65 94 26 33 27 61 98 58 0 **speeds:** 20.9711 17.1279 17.1279 17.1279 17.1279 17.1279 15.3304 20.9711 20.9711  
0 18 54 83 6 78 69 10 59 2 34 0 **speeds:** 20.9711 17.9721 17.9721 17.9721 17.9721 17.9721 17.9721 17.9721 17.9721 17.9721 20.9711  
0 72 63 3 19 4 38 9 53 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 55 44 60 64 14 12 20 51 0 **speeds:** 20.9711 20.9711 20.9711 24.1918 24.1918 24.1918 20.9711 20.9711 20.9711  
0 30 73 28 80 17 13 42 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 56 79 96 11 68 57 48 0 **speeds:** 20.9711 20.9711 23.931 23.931 20.3073 20.3073 20.3073 20.9711  
0 70 35 95 71 87 82 93 39 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 18.986 18.986 18.986 16.9348 20.9711  
0 89 74 76 5 31 37 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_10-A, ExecTime: 27.7718s, Cost: 1041.45, 12 Vehicles**

0 18 54 45 6 59 78 34 2 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 37 10 69 5 76 74 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 58 98 89 61 94 65 93 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 49 95 71 87 82 27 33 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 48 57 11 9 63 3 19 38 68 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 25 24 29 88 67 99 84 8 50 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 15 66 40 21 32 91 41 22 47 75 1 81 39 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 16 96 12 14 20 64 60 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 30 7 77 79 51 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 70 52 92 42 90 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 97 62 56 28 100 80 73 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 23 85 46 86 4 72 53 43 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_11-B, ExecTime: 101.466s, Cost: 1463.42, 15 Vehicles**

0 67 72 3 74 51 8 11 0 **speeds:** 20.9711 15.3304 18.034 18.034 18.034 20.9711 20.9711 20.9711  
 0 2 91 78 55 13 21 56 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 57 44 86 1 98 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
 0 23 80 83 85 59 0 **speeds:** 20.9711 15.3304 16.8516 16.8516 16.8516 20.9711  
 0 60 35 99 68 40 97 0 **speeds:** 20.9711 20.9711 20.9711 17.7075 17.7075 20.9711 20.9711  
 0 7 87 65 96 20 95 66 0 **speeds:** 20.9711 22.4075 22.4075 15.3304 20.9711 20.9711 20.9711 20.9711  
 0 14 100 42 16 30 12 29 92 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 16.3609 20.9711 20.9711 20.9711  
 0 53 15 31 17 94 73 47 22 32 0 **speeds:** 20.9711 22.0247 22.0247 22.0247 15.3304 15.3304 15.3304 21.4156 21.4156 20.9711  
 0 39 27 77 28 10 50 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 41 49 93 84 64 46 81 37 0 **speeds:** 20.9711 20.9711 16.9309 16.9309 16.9309 20.9711 20.9711 20.9711 20.9711  
 0 24 63 82 5 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 38 61 71 4 89 0 **speeds:** 20.9711 24.8875 24.8875 24.8875 24.8875 20.9711  
 0 54 90 62 45 33 76 88 43 0 **speeds:** 20.9711 23.4908 23.4908 23.4908 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 79 69 18 25 9 75 6 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
 0 19 36 52 48 58 34 70 26 0 **speeds:** 20.9711 23.2679 17.1506 17.1506 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_11-C, ExecTime: 54.821s, Cost: 1299.85, 14 Vehicles**

0 19 82 79 36 69 58 48 52 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 100 42 16 29 12 65 30 37 0 **speeds:** 20.9711 20.9711 17.7843 17.7843 17.7843 20.9711 20.9711 20.9711 20.9711  
 0 34 76 89 71 88 62 54 0 **speeds:** 20.9711 18.8342 18.8342 18.8342 18.8342 20.9711 20.9711 20.9711  
 0 73 47 31 3 8 51 15 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 22.7746 22.7746 20.9711  
 0 98 50 74 72 67 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 41 92 23 56 25 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 26 22 61 33 4 45 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 97 60 40 68 10 28 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 44 99 11 35 94 17 38 0 **speeds:** 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 63 2 9 91 78 21 13 0 **speeds:** 20.9711 18.55 18.55 18.55 18.55 19.2085 19.2085 20.9711  
0 80 55 75 6 83 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 7 95 64 27 66 49 84 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 24 59 32 90 70 53 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 77 93 81 96 20 87 46 39 14 57 0 **speeds:** 20.9711 22.3382 22.3382 22.3382 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_11-A, ExecTime: 50.0516s, Cost: 1173.85, 14 Vehicles**

0 39 81 96 30 65 12 29 16 42 100 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 22 33 4 89 71 76 62 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 90 34 54 43 45 88 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 7 95 49 93 84 77 66 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 92 23 83 56 18 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 19 63 82 79 36 59 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 25 91 75 78 55 21 13 80 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 57 27 64 46 20 37 87 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 40 68 50 1 86 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 98 15 31 51 47 73 17 94 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 60 99 11 35 38 53 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 10 28 67 72 3 8 74 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 6 9 2 52 48 58 69 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 41 5 24 32 70 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_12-B, ExecTime: 94.1573s, Cost: 1215.31, 13 Vehicles**

0 28 41 85 55 95 100 51 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 45 75 69 49 79 52 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 70 1 86 68 35 57 14 59 84 66 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 21.386 21.386 21.386 20.9711 20.9711  
0 15 63 29 42 22 20 0 **speeds:** 20.9711 21.2435 21.2435 21.2435 17.4223 17.4223 20.9711  
0 62 46 27 23 21 77 17 92 97 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 22.6348 22.6348 22.6348 20.9711  
0 82 6 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 88 11 50 72 83 96 48 47 24 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
0 12 4 64 30 10 44 94 60 81 0 **speeds:** 23.5782 24.1018 24.1018 24.1018 24.1018 24.1018 24.1018 20.9711 20.9711 20.9711

0 3 5 80 54 99 7 39 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 13 37 56 76 90 2 19 67 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 73 18 65 36 53 91 71 0 **speeds:** 20.9711 20.9711 19.7622 19.7622 19.7622 19.7622 15.3304 20.9711  
 0 25 61 32 89 93 74 58 98 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 78 40 16 8 87 33 38 34 9 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_12-C, ExecTime: 61.2768s, Cost: 1090.21, 12 Vehicles**

0 99 74 34 38 50 11 19 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 84 17 23 21 68 14 35 57 86 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 82 13 3 67 56 5 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 6 43 46 92 59 77 27 97 31 66 62 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 2 72 88 4 64 44 24 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 37 98 54 32 93 58 25 0 **speeds:** 20.9711 20.9711 20.9711 22.3725 22.3725 22.3725 22.3725 20.9711  
 0 78 61 80 89 8 33 87 40 16 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 39 95 29 22 100 20 51 0 **speeds:** 20.9711 23.002 23.002 23.002 23.002 23.002 23.002 20.9711  
 0 70 53 18 48 10 30 65 36 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
 0 7 9 41 55 63 15 42 0 **speeds:** 20.9711 24.7651 24.7651 24.7651 24.7651 24.7651 20.9711  
 0 90 71 73 83 96 12 94 76 81 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 79 52 1 49 75 69 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 24.0268 24.0268 20.9711 20.9711

**Instance: UK100\_12-A, ExecTime: 37.6198s, Cost: 1011.91, 12 Vehicles**

0 13 37 98 80 54 58 99 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 91 24 18 65 36 47 53 75 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 55 40 87 8 33 16 63 15 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 77 68 35 57 86 69 26 84 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 82 39 7 9 5 78 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 44 64 48 10 30 11 50 67 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 25 28 3 56 76 19 2 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 51 20 100 22 42 29 95 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 62 66 46 92 59 27 17 14 21 23 97 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 81 72 88 94 12 4 96 83 73 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 6 90 71 79 49 52 1 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 41 85 32 89 93 34 38 74 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_13-B, ExecTime: 70.687s, Cost: 1462.67, 14 Vehicles**

0 59 57 79 31 54 20 68 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 16.95 16.95 20.9711 20.9711 20.9711  
 0 2 42 5 41 98 29 71 74 0 **speeds:** 20.9711 20.9711 17.4836 17.4836 17.4836 15.3304 18.6249 20.9711 20.9711  
 0 93 51 87 18 22 44 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711  
 0 75 85 0 **speeds:** 20.9711 15.3304 20.9711  
 0 26 27 40 43 100 58 0 **speeds:** 20.9711 20.9711 17.6473 17.6473 17.6473 20.9711 20.9711  
 0 70 33 53 48 21 67 45 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
 0 9 94 55 81 69 88 28 23 14 0 **speeds:** 20.9711 20.9711 24.6723 15.3304 15.3304 15.3304 15.3304 24.1007 20.9711  
 0 92 56 19 46 99 78 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 21.7196 21.7196  
 0 91 80 82 47 73 17 76 97 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 17.6108 17.6108 15.3304 20.9711  
 0 4 60 36 89 72 90 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
 0 65 95 50 25 32 24 84 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 22.3441 20.9711  
 0 15 62 16 66 38 39 13 96 0 **speeds:** 20.9711 16.9985 16.9985 16.9985 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 63 86 10 3 35 49 11 52 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 34 6 8 30 64 37 7 1 12 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3676 15.3676 23.2131 23.2131 20.9711

**Instance: UK100\_13-C, ExecTime: 44.2224s, Cost: 1264.08, 14 Vehicles**

0 58 85 75 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
 0 93 60 22 44 51 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711  
 0 89 72 59 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
 0 9 90 94 77 79 68 69 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 80 97 61 76 17 73 47 31 54 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 19.9694 20.9711 20.9711  
 0 100 83 95 84 74 32 25 50 24 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 12 39 38 7 16 66 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 15 96 1 64 30 62 37 8 6 34 0 **speeds:** 20.9711 20.9711 20.9711 23.2807 23.2807 23.2807 23.2807 20.9711 20.9711 20.9711  
 0 57 91 20 92 56 46 55 19 99 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 17.7823 17.7823 17.7823 20.9711 20.9711  
 0 3 63 10 86 11 49 52 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 21.7795 21.7795 20.9711 20.9711 20.9711  
 0 88 78 23 81 14 18 87 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 98 42 29 33 41 5 2 0 **speeds:** 20.9711 15.3304 15.3304 17.8875 17.8875 17.8875 20.9711 20.9711  
 0 26 27 40 67 43 45 0 **speeds:** 20.9711 20.7769 20.7769 20.7769 20.7769 20.7769 20.9711  
 0 21 48 53 70 71 65 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_13-A, ExecTime: 32.9149s, Cost: 1116.53, 13 Vehicles**

0 1 64 16 62 30 37 8 6 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 43 65 71 25 32 50 84 95 24 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 75 85 100 27 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 49 11 86 10 63 3 52 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 98 53 29 33 48 74 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 12 15 96 66 7 38 39 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 67 21 70 41 5 2 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 90 94 77 79 56 46 99 19 68 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 92 91 17 73 47 83 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 9 36 59 72 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 69 88 55 28 78 23 81 14 60 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 58 45 80 97 61 76 31 20 54 57 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 93 51 44 22 87 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_14-B, ExecTime: 68.5283s, Cost: 1532.37, 14 Vehicles**

0 17 61 33 82 63 69 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 77 58 42 15 65 13 87 19 0 **speeds:** 20.9711 20.9711 20.5621 20.5621 15.3304 15.3304 15.3304 20.9711 20.9711  
0 39 49 76 62 54 90 78 66 11 70 0 **speeds:** 20.9711 16.2933 16.2933 17.2906 17.2906 17.2906 17.2906 20.9711 20.9711 20.9711 20.9711  
0 94 23 93 1 74 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 14 75 68 57 12 29 48 88 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 3 100 86 25 18 92 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711  
0 53 47 67 79 56 36 40 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.256 15.3304 20.9711 20.9711  
0 83 50 89 20 81 80 51 0 **speeds:** 20.9711 23.5155 23.5155 23.5155 21.353 21.353 15.3304 20.9711  
0 64 9 28 32 30 96 85 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 72 8 43 97 52 37 0 **speeds:** 20.9711 20.9711 20.9711 22.0969 15.3304 19.6736 20.9711  
0 5 73 41 99 4 95 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 59 35 7 31 27 45 38 0 **speeds:** 21.3178 21.3178 21.3178 23.05 23.05 15.3304 20.9711 20.9711  
0 2 16 46 34 10 22 71 0 **speeds:** 20.9711 15.3304 15.3304 22.0615 22.0615 22.0615 22.0615 20.9711  
0 55 24 6 84 26 60 98 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711

**Instance: UK100\_14-C, ExecTime: 42.1012s, Cost: 1349.38, 14 Vehicles**

0 23 93 62 54 55 94 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 45 90 31 6 84 24 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
0 98 57 12 75 14 48 35 60 0 **speeds:** 20.9711 19.439 19.439 19.439 19.439 15.3841 20.9711 20.9711 20.9711  
0 95 47 40 67 79 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 2 10 16 46 9 43 72 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 83 80 13 65 58 77 42 15 19 0 **speeds:** 20.9711 20.9711 20.2342 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 17 69 97 52 64 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711



0 53 89 20 50 81 87 51 0 **speeds:** 20.9711 20.9711 20.9711 19.2146 19.2146 19.2146 19.2146 20.9711  
0 85 5 73 32 30 28 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 96 41 4 99 36 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 74 1 76 70 11 49 39 78 66 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 63 3 38 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 59 61 29 33 88 68 22 71 82 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 23.1471 20.9711  
0 27 91 25 86 26 92 7 18 100 0 **speeds:** 20.9711 20.9711 18.2226 18.2226 18.2226 18.2226 18.2226 18.2226 20.9711 20.9711

**Instance: UK100\_14-A, ExecTime: 28.2857s, Cost: 1231.33, 14 Vehicles**

0 94 55 54 78 62 93 74 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 3 38 98 100 27 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 60 91 86 25 26 92 35 48 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 95 36 47 40 67 56 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 63 21 0 **speeds:** 20.9711 20.9711 20.9711  
0 53 41 99 4 5 73 96 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 17 69 97 52 64 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 2 10 9 34 28 30 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 61 68 57 12 75 14 88 33 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 83 51 80 81 50 20 89 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 59 22 71 16 46 43 72 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 77 42 58 65 15 19 87 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 24 90 31 6 84 7 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 1 23 66 76 39 49 11 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_15-B, ExecTime: 63.2829s, Cost: 1538.71, 15 Vehicles**

0 62 43 70 53 66 0 **speeds:** 20.9711 15.6593 20.9711 20.9711 20.9711 20.9711  
0 21 64 36 15 49 0 **speeds:** 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 96 61 7 1 3 81 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 37 63 44 2 98 60 29 26 27 0 **speeds:** 20.9711 20.9711 15.3304 19.644 19.644 19.644 15.3304 15.3304 20.9711 20.9711  
0 48 94 22 20 56 32 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
0 30 74 24 34 80 90 67 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 17 88 8 10 91 59 0 **speeds:** 20.9711 20.9711 19.7419 15.3304 15.3304 15.3304 20.9711  
0 23 85 100 79 51 86 0 **speeds:** 22.7605 22.7605 22.7605 22.7605 22.7605 15.7895 20.9711  
0 58 68 33 5 89 38 14 69 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 31 52 71 50 95 97 12 45 78 0 **speeds:** 20.9711 15.3304 17.5516 17.5516 17.5516 17.5516 17.5516 15.3304 20.9711 20.9711

0 13 73 65 54 93 46 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 40 6 87 72 9 92 0 **speeds:** 20.9711 20.9711 20.9711 18.1229 15.3304 15.3304 20.9711  
 0 77 19 99 25 47 57 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
 0 11 55 42 4 75 83 39 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 35 76 41 84 82 28 18 0 **speeds:** 20.9711 21.7806 21.7806 21.7806 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_15-C, ExecTime: 73.9442s, Cost: 1404.02, 15 Vehicles**

0 47 77 69 14 99 25 0 **speeds:** 20.9711 20.9541 20.9541 20.9541 15.3304 20.9711 20.9711  
 0 53 96 37 3 7 19 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 93 73 65 54 46 36 42 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
 0 74 90 33 5 38 89 68 30 0 **speeds:** 20.9711 20.9711 15.4928 15.4928 15.4928 15.4928 22.7262 22.7262 20.9711  
 0 28 39 84 26 60 88 8 29 0 **speeds:** 20.9711 20.9711 19.9197 19.9197 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 9 94 95 50 6 40 72 48 71 0 **speeds:** 20.9711 20.9711 20.9711 15.8044 15.8044 15.3304 15.3304 15.3304 15.3304 20.9711  
 0 32 92 87 79 51 23 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
 0 27 10 91 17 59 57 0 **speeds:** 20.9711 22.9714 22.9714 22.9714 22.9714 22.9714 20.9711  
 0 62 41 83 16 82 18 75 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 63 81 98 2 44 1 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 78 20 22 45 12 97 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 43 35 15 49 4 76 0 **speeds:** 20.9711 19.3523 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 86 85 100 80 34 24 58 0 **speeds:** 20.9711 16.5564 16.5564 16.5564 16.5564 15.3304 20.9711 20.9711  
 0 67 66 70 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 56 21 55 64 52 31 0 **speeds:** 20.9711 20.9711 19.677 19.677 19.677 19.677 20.9711

**Instance: UK100\_15-A, ExecTime: 41.362s, Cost: 1282.97, 15 Vehicles**

0 86 85 51 23 100 58 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 47 5 89 38 99 14 69 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 75 82 28 18 16 84 39 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 96 37 7 61 25 19 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 3 1 44 2 98 60 88 26 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 53 57 67 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
 0 31 52 94 20 13 93 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 71 72 40 6 50 95 22 45 12 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 59 91 17 29 81 63 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 48 9 92 87 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 11 70 43 76 35 42 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 32 21 36 46 64 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 30 33 74 90 68 24 34 80 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 66 27 10 41 83 62 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 4 49 15 54 65 73 78 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_16-B, ExecTime: 55.054s, Cost: 1267.26, 13 Vehicles**

0 93 51 74 73 80 48 88 91 0 **speeds:** 20.9711 23.5837 17.2624 17.2624 15.3304 21.9921 20.1651 20.9711 20.9711  
0 2 23 3 45 54 33 27 84 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
0 59 76 60 65 58 86 19 71 63 57 44 0 **speeds:** 20.9711 20.9711 20.9711 18.2317 15.3304 15.5014 15.3304 15.3304 19.1597 19.1597 19.1597 20.9711  
0 15 21 55 47 40 6 99 16 0 **speeds:** 20.9711 22.6005 22.6005 22.6005 20.9711 20.9711 20.9711 20.9711 20.9711  
0 38 49 18 98 53 75 82 61 0 **speeds:** 20.9711 15.3304 15.3304 23.0312 15.859 15.859 20.9711 20.9711 20.9711  
0 77 69 72 92 25 14 42 0 **speeds:** 20.9711 20.9711 15.3304 15.7573 15.7573 15.3304 19.5956 20.9711  
0 35 0 **speeds:** 20.9711 20.9711  
0 20 7 95 52 13 31 94 10 12 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 8 64 41 66 85 28 81 30 0 **speeds:** 20.9711 20.9711 19.1293 19.1293 20.6196 20.6196 20.6196 20.6196 20.9711  
0 89 83 24 46 87 97 4 26 0 **speeds:** 20.9711 19.1577 19.1577 19.1577 15.3304 24.2176 24.2176 24.5794 20.9711  
0 1 22 5 17 39 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 29 62 50 43 68 79 56 96 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 70 11 36 34 32 90 78 67 100 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 18.8367 18.8367 18.8367 19.9112 19.9112 20.9711

**Instance: UK100\_16-C, ExecTime: 39.1239s, Cost: 1079.62, 12 Vehicles**

0 17 70 69 72 77 92 14 25 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 93 82 98 18 75 53 37 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
0 45 33 88 51 48 73 74 80 54 3 0 **speeds:** 20.9711 22.9201 22.9201 15.3304 20.2793 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 31 13 94 26 41 10 7 52 95 0 **speeds:** 20.9711 20.9711 20.9711 21.2312 21.2312 21.2312 23.3568 23.3568 23.3568 20.9711  
0 89 4 64 65 60 44 49 76 61 0 **speeds:** 20.9711 20.9711 20.8939 20.8939 20.8939 20.9711 20.9711 20.9711 20.9711 20.9711  
0 39 5 34 85 66 78 32 90 0 **speeds:** 20.9711 21.1554 21.1554 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 9 40 47 79 42 56 96 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 99 29 21 55 68 43 6 0 **speeds:** 20.9711 17.7983 17.7983 17.7983 17.7983 17.7983 20.9711 20.9711  
0 15 16 62 23 50 27 91 84 2 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 17.6328 20.9711 20.9711  
0 59 22 8 58 71 19 12 86 63 57 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 35 1 20 36 28 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 81 83 24 97 46 87 100 67 11 0 **speeds:** 20.9711 20.9711 20.9711 18.5864 18.5864 18.5864 18.5864 18.5864 20.9711 20.9711

**Instance: UK100\_16-A, ExecTime: 29.3605s, Cost: 957.853, 12 Vehicles**

0 45 33 88 54 51 80 74 73 48 62 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 22 1 31 95 52 20 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 57 63 86 19 71 58 65 60 44 49 76 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 61 18 75 98 53 37 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 13 94 26 7 4 64 12 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 78 11 67 100 87 46 97 41 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 99 96 55 68 56 79 47 42 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 59 35 15 16 21 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 23 50 43 91 27 3 84 2 93 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 17 5 34 32 90 69 72 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 81 83 28 85 66 24 36 30 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 9 39 92 14 25 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_17-B, ExecTime: 79.5836s, Cost: 1502.59, 15 Vehicles**

0 43 10 79 50 53 41 0 **speeds:** 20.9711 15.3304 15.3304 19.075 20.9711 20.9711 20.9711

0 67 15 27 57 97 87 0 **speeds:** 20.9711 20.9711 20.9711 23.01 15.3304 20.9711 20.9711

0 59 58 75 26 69 0 **speeds:** 20.9711 20.9711 15.6328 20.9711 20.9711 20.9711

0 74 84 12 24 93 73 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 56 29 66 70 23 8 34 71 76 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 24.1358 20.9711 20.9711

0 21 20 37 64 62 1 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 17.1355 17.1355 20.9711

0 52 16 85 33 39 51 99 35 0 **speeds:** 20.9711 17.9792 17.9792 17.9792 17.9792 23.7035 23.7035 20.9711 20.9711

0 80 30 3 2 40 46 0 **speeds:** 20.9711 24.9513 24.9513 15.3304 15.3304 20.9711 20.9711

0 13 78 22 7 90 25 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.0543 20.9711 20.9711

0 91 31 42 18 96 82 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 5 83 54 11 9 86 0 **speeds:** 20.9711 20.9711 15.3304 16.6411 20.9711 20.9711 20.9711

0 44 45 32 94 92 95 49 17 0 **speeds:** 20.9711 16.4167 22.338 22.8139 15.3304 15.3304 21.1178 21.1178 20.9711

0 36 100 6 61 4 68 65 0 **speeds:** 20.9711 18.094 18.094 15.3304 15.3304 20.9711 20.9711 20.9711

0 89 38 88 81 14 98 0 **speeds:** 20.9711 15.3304 24.9177 24.9177 15.3304 15.3304 20.9711

0 60 72 19 28 48 63 0 **speeds:** 20.9711 20.9711 20.9711 23.9654 23.9654 20.9711 20.9711

**Instance: UK100\_17-C, ExecTime: 87.8761s, Cost: 1376.26, 15 Vehicles**

0 75 43 10 79 27 15 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 21 88 81 14 38 72 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 22.1238 22.1238 20.9711

0 54 11 8 34 23 32 45 44 0 **speeds:** 20.9711 20.9711 19.8984 19.8984 19.8984 19.8984 19.8984 21.295 20.9711

0 36 100 78 2 40 13 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 19 73 53 48 47 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 63 69 58 26 0 **speeds:** 20.9711 19.857 19.857 15.3304 20.9711  
0 99 85 51 93 12 24 33 68 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 37 1 50 62 64 41 28 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.7747 15.7747 20.9711 20.9711  
0 59 98 89 77 80 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 91 67 82 96 57 87 55 5 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 18.8611 21.1119 21.1119 21.1119 20.9711  
0 25 52 17 30 49 29 86 0 **speeds:** 20.9711 22.8083 22.8083 22.8083 22.8083 22.8083 21.7882 20.9711  
0 65 7 22 4 61 6 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 21.3837 21.3837 20.9711 20.9711  
0 35 16 84 39 90 74 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 83 76 70 66 92 94 95 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 97 18 31 71 9 0 **speeds:** 20.9711 20.3447 20.3447 20.3447 20.3447 20.9711 20.9711

**Instance: UK100\_17-A, ExecTime: 42.1602s, Cost: 1242.5, 15 Vehicles**

0 48 1 50 62 64 41 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 69 15 27 75 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 31 18 91 87 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 86 9 44 30 80 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 38 81 14 85 74 35 88 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 70 32 23 45 8 34 76 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 72 21 19 73 53 37 20 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 77 52 25 13 46 100 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 49 66 92 94 95 3 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 36 6 61 7 90 68 65 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 67 82 96 57 97 54 71 11 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 16 84 51 93 12 24 99 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 60 59 98 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 63 58 43 79 10 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 39 33 22 4 78 2 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_18-B, ExecTime: 88.52s, Cost: 1325.27, 13 Vehicles**

0 28 73 51 45 97 50 8 0 **speeds:** 20.9711 20.9711 20.9711 20.2427 15.3304 15.3304 15.3304 20.9711  
0 40 88 39 49 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711  
0 25 64 17 80 95 46 78 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711  
0 90 87 96 32 67 42 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 60 56 30 18 57 75 84 72 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 22.4519 20.9711 20.9711

0 70 59 43 27 12 35 1 41 71 54 98 0 **speeds:** 20.9711 21.5515 21.5515 21.5515 21.5515 21.5515 15.3304 17.1879 17.1879 15.3304 20.9711 20.9711  
0 3 48 24 91 65 38 2 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 69 55 100 99 79 61 16 13 52 15 0 **speeds:** 22.5217 22.5217 22.5217 22.5217 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
0 86 10 83 22 77 89 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 66 9 62 4 21 93 82 47 74 0 **speeds:** 20.9711 20.9711 23.9426 23.9426 23.9426 15.3304 15.3304 15.3304 20.9711 20.9711  
0 6 19 63 94 33 85 5 92 29 7 0 **speeds:** 20.9711 21.4749 18.2493 18.2493 18.2493 18.2493 17.8792 15.3304 20.9711 20.9711 20.9711  
0 34 14 23 68 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 58 11 81 53 76 44 37 0 **speeds:** 20.9711 21.5618 21.5618 21.5618 21.5618 21.5618 20.9711 20.9711

**Instance: UK100\_18-C, ExecTime: 70.9421s, Cost: 1190.04, 13 Vehicles**

0 85 63 19 7 5 33 92 94 29 48 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 19.5711 19.5711 19.5711 19.5711 19.5711 20.9711  
0 68 26 70 87 90 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 20 42 35 67 1 72 96 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 73 51 8 97 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 23 14 89 65 2 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 39 4 62 82 47 74 0 **speeds:** 20.9711 20.4144 20.4144 20.4144 20.4144 20.4144 20.9711  
0 79 55 11 80 95 46 36 78 0 **speeds:** 20.9711 15.3446 15.3446 24.1759 24.1759 20.9711 20.9711 20.9711 20.9711  
0 88 49 93 21 52 99 15 58 37 9 66 0 **speeds:** 20.9711 20.9711 24.1202 24.1202 24.1202 24.1202 24.1202 24.1202 24.1202 24.1202 20.9711  
0 56 18 57 75 12 84 27 43 32 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 50 25 98 30 41 54 17 64 71 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 91 24 38 31 77 22 59 83 10 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 45 44 81 76 61 100 69 13 16 53 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 28 6 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_18-A, ExecTime: 37.5361s, Cost: 1061.85, 13 Vehicles**

0 96 75 12 43 27 84 32 57 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 6 8 50 97 34 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 66 62 93 4 21 49 39 88 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 45 99 15 11 61 76 81 44 53 80 95 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 3 29 5 33 94 92 63 85 19 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 35 67 1 72 41 30 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 98 71 54 17 64 78 36 46 25 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 48 2 38 24 91 65 31 23 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 68 26 87 86 20 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 70 10 83 59 22 77 89 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 28 73 51 9 37 47 74 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 58 16 100 55 79 69 13 52 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 40 0 **speeds:** 20.9711 20.9711

**Instance: UK100\_19-B, ExecTime: 65.9262s, Cost: 1233.83, 14 Vehicles**

0 28 41 16 53 27 15 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 55 58 0 **speeds:** 20.9711 20.9711 20.9711  
0 36 93 1 74 5 48 0 **speeds:** 20.9711 19.4469 19.4469 19.4469 21.9344 21.9344 20.9711  
0 21 94 77 37 40 68 88 23 69 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.2414 20.9711 20.9711 20.9711  
0 89 34 45 6 100 26 3 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 47 86 52 70 14 4 20 60 17 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 21.1316 21.1316 20.9711  
0 76 54 98 33 99 64 2 50 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 57 84 90 91 32 38 59 96 22 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711  
0 75 67 56 79 9 0 **speeds:** 20.9711 20.9711 19.5122 22.127 20.9711 20.9711  
0 78 12 81 18 25 46 11 63 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 51 30 87 83 29 8 65 72 39 97 0 **speeds:** 20.9711 23.3159 23.3159 23.3159 23.3159 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 71 66 42 85 31 61 0 **speeds:** 20.9711 24.182 24.182 24.182 20.9711 20.9711 20.9711  
0 92 62 73 24 44 82 7 0 **speeds:** 20.9711 20.9711 15.3304 15.4495 15.4495 20.9711 20.9711 20.9711  
0 80 19 10 43 13 95 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711

**Instance: UK100\_19-C, ExecTime: 60.3097s, Cost: 1091.34, 13 Vehicles**

0 66 42 86 12 52 74 5 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 48 61 71 97 70 1 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 30 72 18 81 63 46 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 89 34 7 45 57 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 58 69 44 37 92 62 88 24 0 **speeds:** 20.9711 19.0129 19.0129 19.0129 19.0129 19.0129 19.0129 19.0129 20.9711  
0 19 10 40 68 73 82 23 77 0 **speeds:** 20.9711 20.9711 21.1929 21.1929 21.1929 21.1929 21.1929 20.9711 20.9711  
0 2 95 98 87 83 29 8 54 11 25 39 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 16.5402 16.5402 16.5402 15.3304 15.3304 20.9711  
0 9 79 78 51 31 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 16.8034 16.8034 20.9711  
0 65 33 43 13 80 64 99 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711  
0 17 60 22 32 38 59 96 3 26 84 35 0 **speeds:** 20.9711 20.9711 20.9711 21.4493 21.4493 21.4493 21.4493 21.4493 21.4493 21.4493 20.9711  
0 28 75 16 15 27 94 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 100 91 90 6 20 4 14 93 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 16.6864 15.3304 19.7311 20.9711 20.9711  
0 21 41 76 50 53 67 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 16.0538 20.9711 20.9711

**Instance: UK100\_19-A, ExecTime: 39.0844s, Cost: 998.367, 13 Vehicles**

0 75 53 56 67 50 41 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 76 2 95 33 83 87 98 54 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 23 82 73 68 40 62 88 24 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 36 93 1 47 14 4 20 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 43 13 99 64 80 19 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 89 45 7 34 17 6 22 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 30 65 8 29 63 81 39 86 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 58 100 84 90 32 38 59 96 3 91 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 16 15 92 37 44 69 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 71 85 31 51 42 66 78 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 48 28 61 9 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 55 57 27 94 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 97 74 52 12 25 18 49 46 11 72 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK100\_20-B, ExecTime: 55.1058s, Cost: 1491.87, 14 Vehicles**

0 23 77 94 12 31 62 48 0 **speeds:** 20.9711 20.9711 15.3304 19.9283 19.9283 19.9283 19.9283 20.9711  
0 30 40 69 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 46 25 53 90 44 0 **speeds:** 20.9711 19.3545 19.3545 15.3304 17.0407 20.9711 20.9711  
0 72 35 57 47 65 59 33 82 0 **speeds:** 20.9711 15.3304 15.3304 24.6621 24.6621 15.3304 20.9711 20.9711 20.9711  
0 63 36 17 19 87 6 73 21 100 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 18.0693 18.0693 18.0693 20.9711  
0 78 11 60 75 29 50 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 51 2 37 71 13 91 81 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 18 86 9 27 56 67 34 88 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 92 20 85 16 76 39 98 32 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 54 96 43 93 1 84 97 0 **speeds:** 20.9711 20.9711 20.9711 19.5946 19.5946 15.3304 20.9711 20.9711  
0 22 95 45 74 52 3 4 0 **speeds:** 20.9711 24.7018 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 70 15 80 38 66 5 99 89 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 58 61 49 55 14 64 79 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 7 68 24 10 41 83 28 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.3383 20.3383 20.3383 20.3383 20.9711

**Instance: UK100\_20-C, ExecTime: 63.92s, Cost: 1363.2, 14 Vehicles**

0 3 41 13 74 45 2 18 34 0 **speeds:** 20.9711 20.9711 20.9711 19.123 19.123 19.123 19.123 19.123 20.9711  
0 22 90 25 53 70 4 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 22.2246 22.2246 20.9711  
0 21 87 6 73 39 36 19 17 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711



0 94 12 100 62 48 31 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 16.6667 20.9711  
0 46 97 54 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 29 82 33 59 26 88 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 11 65 57 35 47 60 75 78 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 91 5 66 89 80 15 38 99 0 **speeds:** 20.9711 16.7872 16.7872 16.7872 16.7872 16.7872 15.3304 15.3304 20.9711  
0 50 92 20 72 85 16 32 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 69 98 76 40 63 23 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 24 10 67 56 37 27 71 52 81 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 23.2457 23.2457 20.9711  
0 14 79 64 61 44 58 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
0 51 83 95 9 28 86 68 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 49 55 96 43 93 1 84 0 **speeds:** 20.9711 20.9711 22.1881 22.1881 22.1881 22.1881 20.9711 20.9711 20.9711

**Instance: UK100\_20-A, ExecTime: 37.1708s, Cost: 1225.15, 14 Vehicles**

0 30 40 76 98 63 69 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 82 33 72 20 85 16 92 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 80 89 15 38 99 66 5 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 4 81 74 13 45 71 2 51 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 7 41 83 52 95 3 22 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 23 100 62 48 31 12 94 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 68 18 86 28 9 37 27 56 67 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 88 0 **speeds:** 20.9711 20.9711 20.9711  
0 61 64 96 1 43 93 84 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 78 11 75 47 35 57 60 65 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 50 29 59 26 10 34 24 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 46 44 49 55 14 79 58 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 97 54 42 25 53 90 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 87 6 73 39 36 19 17 21 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_01-B, ExecTime: 591.591s, Cost: 2351.37, 28 Vehicles**

0 147 30 182 154 75 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 125 120 57 167 17 46 127 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 116 71 133 67 178 92 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 140 55 84 3 83 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 186 159 48 185 97 22 197 32 158 101 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 17.2059 17.2059 17.2059 20.9711  
0 89 134 189 200 161 153 35 115 131 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 103 170 192 99 172 184 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 68 193 29 199 1 80 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 59 21 160 119 88 187 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 56 18 138 24 137 188 34 16 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 112 126 123 27 130 15 141 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 85 174 65 10 82 20 53 121 0 **speeds:** 20.9711 20.9711 15.3304 17.9433 17.9433 17.9433 15.3304 23.4519 20.9711  
 0 176 26 165 157 171 104 0 **speeds:** 20.9711 20.9711 15.3304 21.8881 21.8881 21.8881 20.9711  
 0 86 78 41 54 45 191 100 0 **speeds:** 20.9711 24.0237 24.0237 24.0237 19.5223 19.5223 15.3304 20.9711  
 0 143 79 196 25 63 64 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 43 8 58 108 12 145 162 144 149 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711  
 0 60 74 118 11 77 124 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 14 169 39 181 150 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 177 198 105 102 113 168 50 180 0 **speeds:** 20.9711 15.3304 15.3304 16.3617 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 28 179 94 93 190 111 81 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 110 117 166 122 152 132 52 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 155 36 129 49 2 164 183 163 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 22.6742 20.9711  
 0 194 61 136 62 146 151 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 18.5913 20.9711  
 0 98 72 51 128 23 19 90 173 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 7 195 95 31 156 40 5 114 96 0 **speeds:** 20.9711 20.9711 22.5029 22.5029 22.5029 22.5029 22.5029 22.5029 20.9711 20.9711  
 0 33 175 107 4 69 73 135 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.4735 20.4735 20.4735 20.9711  
 0 47 70 42 37 6 109 106 76 0 **speeds:** 20.9711 20.9711 20.9711 22.8996 22.8996 22.8996 22.8996 20.9711 20.9711  
 0 38 87 139 142 66 44 0 **speeds:** 20.9711 20.9711 23.9296 23.9296 23.9296 23.9296 20.9711

**Instance: UK200\_01-C, ExecTime: 392.672s, Cost: 2149.89, 28 Vehicles**

0 73 4 158 32 107 5 101 114 118 0 **speeds:** 20.9711 20.9711 18.6634 18.6634 18.6634 18.6634 18.6634 20.9711 20.9711  
 0 26 165 157 182 154 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 85 174 13 126 120 125 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 84 45 54 171 30 0 **speeds:** 20.9711 22.1781 22.1781 22.1781 22.1781 20.9711  
 0 105 102 113 168 176 50 180 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 16 56 7 91 152 122 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 68 191 41 100 104 181 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 173 90 51 19 53 160 119 184 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 103 170 153 200 97 31 99 0 **speeds:** 20.9711 17.7721 17.7721 17.7721 17.7721 17.7721 20.9711 20.9711  
 0 129 36 49 2 177 169 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 96 38 66 69 139 87 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 98 63 72 70 109 42 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 64 128 23 88 187 21 192 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711  
 0 18 138 188 137 159 151 146 115 134 24 131 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 132 197 40 22 185 156 48 34 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 16.8517 16.8517 20.9711 20.9711 20.9711  
 0 71 67 94 27 190 20 82 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 186 9 61 59 194 25 106 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 112 65 92 46 167 145 127 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 155 39 75 150 3 83 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 43 163 183 143 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 79 6 89 37 196 44 135 142 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 76 199 29 1 55 140 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 77 33 11 175 74 78 147 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 111 130 93 81 15 178 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 198 116 58 144 162 149 12 108 164 0 **speeds:** 20.9711 15.3304 15.3304 20.3456 15.3304 18.726 18.726 20.9711 20.9711 20.9711  
 0 80 193 110 124 166 117 52 0 **speeds:** 20.9711 24.1693 24.1693 24.1693 24.1693 24.1693 24.1693 20.9711  
 0 172 195 95 161 189 35 62 136 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 121 133 141 123 179 10 57 0 **speeds:** 20.9711 24.4416 24.4416 24.4416 24.4416 24.4416 24.4416 20.9711

**Instance: UK200.01-A, ExecTime: 329.88s, Cost: 2001.87, 28 Vehicles**

0 137 159 151 156 22 40 197 48 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 180 50 176 113 168 162 144 12 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 89 131 138 18 16 44 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 56 7 91 135 142 66 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 85 174 133 179 67 10 71 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 43 0 **speeds:** 20.9711 20.9711  
 0 42 109 70 6 196 152 122 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 178 111 130 93 15 81 145 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 39 75 104 30 100 191 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 73 4 107 158 32 5 101 114 96 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 64 184 187 21 88 119 19 90 173 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 47 143 183 120 125 116 164 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 33 11 118 175 87 139 69 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 186 98 25 9 194 63 106 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 155 182 157 165 26 102 105 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 169 177 129 36 49 2 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 72 128 23 51 160 53 121 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 59 192 170 103 172 61 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 123 94 141 27 190 20 82 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 181 154 171 54 45 41 147 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 99 62 35 189 195 146 115 134 24 136 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 188 185 31 97 200 95 161 153 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 92 46 57 167 17 65 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 199 124 166 117 132 52 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 163 198 8 58 108 149 127 13 126 112 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 76 80 55 29 1 140 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 68 150 60 148 110 193 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 78 84 74 3 77 83 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_02-B, ExecTime: 510.399s, Cost: 2290.38, 25 Vehicles**

0 59 124 40 129 39 102 163 24 0 **speeds:** 20.9711 20.9711 17.1091 17.1091 17.1091 20.9711 20.9711 20.9711 20.9711  
0 166 126 161 110 162 96 29 20 0 **speeds:** 20.9711 20.9711 18.6025 18.6025 18.6025 17.4 17.4 17.4 20.9711  
0 13 27 172 125 176 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 165 41 77 139 47 133 6 197 114 25 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.5357 15.3304 15.3304 20.9575 20.9575 20.9575 20.9711  
0 108 128 145 16 7 73 106 169 75 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.6356 20.9711 20.9711  
0 26 21 189 155 58 140 88 0 **speeds:** 20.9711 22.6376 22.6376 22.6376 15.3304 15.3304 15.3304 20.9711  
0 182 1 184 160 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 136 15 118 111 152 65 61 142 48 0 **speeds:** 20.9711 20.9711 20.9711 16.826 16.826 16.826 15.3304 18.6251 18.6251 20.9711  
0 148 19 62 67 49 83 183 127 0 **speeds:** 20.9711 20.9711 16.4311 16.4311 20.9711 20.9711 20.9711 20.9711 20.9711  
0 113 37 121 198 191 150 107 192 66 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 101 168 68 10 17 199 156 105 167 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 200 45 42 70 193 87 35 82 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 23.1653 23.1653 20.9711 20.9711 20.9711  
0 158 157 23 154 64 177 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 149 93 63 179 180 53 134 80 72 115 0 **speeds:** 20.9711 15.3304 15.3304 18.2042 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 135 164 89 92 194 175 119 0 **speeds:** 20.9711 16.7738 16.7738 16.7808 16.7808 20.9711 20.9711 20.9711  
0 112 186 190 56 120 78 86 69 36 0 **speeds:** 20.9711 20.9711 20.9711 16.0817 16.0817 16.0817 15.3304 15.3304 16.3494 20.9711  
0 173 55 71 138 76 91 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 4 18 103 8 196 174 109 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 137 144 143 185 117 57 187 3 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 22.4079 24.4605 24.4605 20.9711  
0 14 34 147 5 95 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 33 52 60 116 146 85 9 11 51 104 0 **speeds:** 20.9711 18.0889 18.0889 18.0889 18.0889 18.0889 15.3304 15.3304 15.3304 20.9711 20.9711

0 81 181 100 130 94 22 195 123 99 0 **speeds:** 20.9711 21.2472 21.2472 21.2472 21.2472 21.2472 21.2472 21.2472 20.9711 20.9711  
0 132 188 2 131 54 178 79 153 46 84 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 38 43 151 170 122 98 44 0 **speeds:** 20.9711 20.9711 20.8759 15.3304 20.9711 20.9711 20.9711 20.9711  
0 159 28 90 74 141 50 30 31 171 12 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711

**Instance: UK200\_02-C, ExecTime: 321.199s, Cost: 2065.82, 24 Vehicles**

0 102 9 16 114 197 71 55 108 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 159 171 54 131 90 50 69 74 141 86 36 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 17.3591 17.3591 20.9711 20.9711  
0 99 132 79 56 190 186 178 112 153 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 48 65 21 58 140 142 61 111 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 13 18 137 144 94 155 88 189 100 185 0 **speeds:** 20.9711 20.917 20.917 20.917 20.917 20.917 15.3304 20.9711 20.9711 20.9711 20.9711  
0 164 89 173 77 138 129 24 0 **speeds:** 20.9711 20.9711 20.9711 16.4818 16.4818 16.4818 20.9711 20.9711  
0 15 80 53 136 154 64 148 177 167 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 95 156 20 96 29 126 162 166 170 0 **speeds:** 20.9711 20.9711 20.4775 20.4775 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 198 200 191 107 150 35 78 120 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 84 125 12 195 188 46 123 176 81 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 34 199 105 5 151 103 0 **speeds:** 20.9711 20.9711 16.0557 20.9711 20.9711 20.9711 20.9711  
0 165 33 92 116 60 146 106 169 41 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 181 22 130 31 30 28 2 0 **speeds:** 20.9711 21.1365 21.1365 21.1365 20.9711 20.9711 20.9711 20.9711  
0 17 183 62 83 19 161 110 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 17.6744 17.6744 20.9711  
0 113 40 76 139 6 47 133 192 91 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 104 68 163 39 1 184 124 59 0 **speeds:** 20.9711 21.4393 21.4393 21.4393 20.9711 20.9711 20.9711 20.9711 20.9711  
0 44 119 97 66 182 160 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 17.0148 17.0148 20.9711  
0 51 101 194 11 127 10 168 175 135 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 52 67 73 128 7 145 75 85 25 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 27 187 57 143 117 26 172 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 37 82 193 70 45 42 87 121 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 158 157 180 179 23 63 147 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 109 174 122 196 8 38 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 149 115 43 118 152 72 134 93 98 0 **speeds:** 20.9711 20.9711 17.1214 17.1214 17.1214 16.172 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_02-A, ExecTime: 398.814s, Cost: 1885.06, 24 Vehicles**

0 48 142 140 58 21 65 61 111 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 182 108 55 71 114 197 6 47 133 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 195 188 159 171 186 56 190 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 117 189 88 155 94 100 181 185 172 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 153 112 178 131 90 141 50 74 69 86 36 120 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 110 49 62 67 73 128 7 106 146 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 1 129 39 173 41 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 98 119 32 167 95 151 196 122 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 63 157 23 180 179 20 29 96 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 24 102 9 16 169 145 75 85 25 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 166 162 183 161 83 19 126 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 14 51 165 68 127 52 10 168 17 175 104 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 124 184 91 40 76 139 138 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 113 66 135 164 160 59 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 101 194 33 11 92 60 116 163 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 149 115 15 53 134 80 72 152 118 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 34 105 156 199 5 147 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 13 187 57 26 143 144 137 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 12 22 130 31 30 28 54 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 170 158 148 64 154 136 93 177 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 121 87 35 150 107 191 200 198 192 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 37 82 193 42 45 70 78 99 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 44 174 38 8 103 4 109 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 27 84 81 125 46 132 123 176 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_03-B, ExecTime: 857.023s, Cost: 2304.7, 28 Vehicles**

0 192 125 147 153 74 88 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 17.384 17.384 20.9711  
 0 15 95 28 190 164 109 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 195 63 115 165 78 184 159 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 130 98 48 174 21 196 154 0 **speeds:** 20.9711 20.9711 15.3304 23.1653 23.1653 23.1653 23.1653 20.9711  
 0 180 160 91 6 122 67 167 25 0 **speeds:** 20.9711 17.3277 17.3277 17.3277 20.9711 20.9711 20.9711 20.9711  
 0 175 102 129 65 186 197 60 64 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 90 99 73 144 47 51 17 62 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 149 173 151 100 181 2 0 **speeds:** 20.9711 20.9711 16.3259 16.3259 20.9711 20.9711 20.9711  
 0 135 101 152 191 97 158 139 177 0 **speeds:** 20.9711 20.9711 20.9711 16.4336 16.4336 16.4336 15.3304 20.9711 20.9711  
 0 128 89 193 126 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 118 134 23 43 166 26 104 0 **speeds:** 20.9711 18.6654 18.6654 18.6654 15.3304 15.3304 15.3304 20.9711  
 0 137 105 87 112 12 3 94 70 136 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711

0 182 148 45 34 42 53 0 **speeds:** 20.9711 17.188 20.9711 20.9711 20.9711 20.9711 20.9711  
0 194 114 61 92 119 199 200 84 76 138 0 **speeds:** 20.9711 20.7605 20.7605 20.7605 23.3562 23.3562 23.3562 23.3562 20.9711 20.9711 20.9711  
0 69 72 143 10 19 18 183 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 19.0426 19.0426 20.9711  
0 86 56 155 179 27 124 0 **speeds:** 20.9711 18.5464 18.5464 15.3304 20.9711 20.9711 20.9711  
0 58 31 110 169 121 39 40 30 41 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 18.1047 18.1047 15.3304 15.3304 20.9711 20.9711  
0 146 54 127 189 120 83 156 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 185 36 187 132 103 5 85 198 171 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 71 1 59 141 131 55 32 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
0 75 157 80 50 106 168 108 0 **speeds:** 20.9711 20.9711 16.1443 16.1443 18.5442 18.5442 20.9711 20.9711  
0 33 107 178 162 117 170 13 0 **speeds:** 20.9711 19.3072 19.3072 19.3072 19.3072 20.9711 20.9711 20.9711  
0 35 79 16 38 111 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 44 188 49 46 163 66 0 **speeds:** 20.9711 20.9711 18.0667 18.0667 18.0667 18.0667 20.9711  
0 96 116 68 29 57 172 145 22 0 **speeds:** 20.9711 20.9711 20.9711 24.6365 15.3304 20.9711 20.9711 20.9711 20.9711  
0 20 142 9 113 52 161 140 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 11 133 123 150 24 82 0 **speeds:** 20.9711 23.0622 23.0622 23.0622 23.0622 20.9711 20.9711  
0 176 77 93 4 7 81 14 0 **speeds:** 20.9711 24.1029 24.1029 15.3304 20.477 20.9711 20.9711 20.9711

**Instance: UK200\_03-C, ExecTime: 307.645s, Cost: 2069.14, 28 Vehicles**

0 138 2 26 149 173 125 192 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 34 106 80 188 168 33 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 186 36 141 132 131 198 197 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
0 15 25 140 28 95 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 163 49 46 60 64 127 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 20 196 99 73 47 21 154 190 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 71 27 10 179 19 155 143 185 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 164 167 184 159 67 144 128 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 134 180 63 165 6 78 122 115 160 0 **speeds:** 20.9711 22.667 22.667 22.667 22.667 22.667 15.3304 15.3304 20.9711 20.9711  
0 146 108 50 56 86 72 101 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 13 119 199 187 102 129 170 66 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 147 61 200 12 112 94 3 87 105 70 0 **speeds:** 20.9711 20.9711 20.9711 23.9482 23.9482 20.9711 20.9711 20.9711 20.9711 20.9711  
0 194 43 166 151 137 114 92 84 153 0 **speeds:** 20.9711 20.9711 20 20 20 20 20 20.9711 20.9711  
0 183 18 191 97 139 158 152 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 11 116 39 24 30 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 48 51 174 98 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 142 58 37 126 62 17 193 130 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 91 52 113 9 109 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 68 40 123 7 22 176 81 41 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 57 29 145 172 4 96 0 **speeds:** 20.9711 20.9711 21.2261 21.2261 21.2261 20.9711 20.9711  
0 31 169 110 121 150 77 93 133 14 0 **speeds:** 20.9711 15.3304 15.3304 16.6607 16.6607 16.6607 16.6607 20.9711 20.9711 20.9711  
0 65 59 103 85 5 55 32 1 117 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 124 42 135 177 148 182 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 79 16 156 120 83 157 75 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711  
0 161 181 195 100 104 23 118 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 76 136 54 74 88 111 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 69 53 35 45 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711  
0 189 175 171 162 178 107 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_03-A, ExecTime: 339.251s, Cost: 1931.26, 27 Vehicles**

0 39 30 40 123 121 110 169 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 57 29 145 93 172 176 81 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 68 24 150 77 4 22 7 133 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 142 128 58 37 17 193 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 114 61 200 105 87 112 3 94 12 137 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 88 74 54 70 92 84 153 147 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 44 107 178 162 1 171 186 175 117 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 62 126 51 174 48 98 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 36 65 59 103 85 5 55 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 134 181 195 118 104 23 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 79 45 35 42 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 188 27 10 19 155 179 143 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 38 136 75 156 83 157 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 101 152 158 139 97 191 18 72 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 120 189 127 64 60 46 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 95 28 140 25 15 194 138 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 122 78 184 67 159 144 167 161 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 190 20 154 196 21 47 73 99 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 90 109 9 164 113 52 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 177 86 56 183 135 182 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 197 187 102 198 131 132 141 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 163 66 170 119 129 199 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711



0 34 50 106 80 168 108 33 185 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 192 125 173 149 151 166 43 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 160 91 6 165 115 63 180 100 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 69 124 53 71 146 16 76 111 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 130 96 11 116 82 14 41 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200.04-B, ExecTime: 812.977s, Cost: 2212.58, 27 Vehicles**

0 132 8 166 59 39 32 12 117 113 194 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
0 90 152 100 94 130 5 0 **speeds:** 20.9711 23.2634 23.2634 23.2634 23.2634 20.9711 20.9711  
0 199 188 156 157 126 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 28 87 145 68 83 142 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 155 147 15 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 96 160 54 46 99 183 24 41 30 191 0 **speeds:** 20.9711 20.9711 18.6804 18.6804 18.6804 18.6804 18.6804 20.9711 20.9711 20.9711 20.9711  
0 169 61 29 114 23 158 0 **speeds:** 20.9711 21.9804 21.9804 21.9804 21.9804 21.9804 20.9711  
0 184 89 81 170 3 57 176 140 105 92 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 77 110 86 153 27 70 116 78 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 67 49 171 62 193 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 21 125 195 63 111 35 0 **speeds:** 20.9711 18.7883 16.247 16.247 16.247 16.247 20.9711  
0 148 154 76 102 189 136 124 192 187 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 44 112 159 196 180 31 0 **speeds:** 20.9711 15.7741 15.7741 15.3304 15.3304 20.9711 20.9711  
0 55 19 128 64 164 101 13 82 181 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 18.6877 18.6877 18.6877 20.9711  
0 138 127 20 37 109 16 0 **speeds:** 20.9711 15.5405 15.3304 24.7238 15.3304 15.3304 20.9711  
0 175 95 131 84 50 174 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 123 167 2 60 26 173 161 52 91 0 **speeds:** 20.9711 20.9711 20.9711 20.2604 20.2604 20.2604 20.2604 20.2604 20.9711 20.9711  
0 56 108 69 22 14 120 7 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.615 20.615 20.9711  
0 66 150 122 149 151 200 53 0 **speeds:** 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 185 165 71 178 42 137 9 1 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 177 162 182 97 141 106 51 80 0 **speeds:** 21.8756 21.8756 21.8756 21.8756 21.8756 21.8756 21.8756 20.9711 20.9711  
0 107 45 85 146 88 104 119 40 179 0 **speeds:** 20.9711 18.5425 18.5425 18.5425 15.3304 23.5194 20.9711 20.9711 20.9711 20.9711  
0 4 186 11 72 190 48 65 0 **speeds:** 20.9711 20.4754 20.4754 20.4754 17.149 17.149 20.9711 20.9711  
0 163 47 129 75 121 36 139 134 197 135 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 74 98 115 18 25 198 34 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 73 133 58 144 33 143 103 118 0 **speeds:** 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 6 43 168 172 93 17 38 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_04-C, ExecTime: 481.804s, Cost: 1994.63, 27 Vehicles**

0 35 119 179 40 45 163 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 58 187 177 51 98 115 124 198 0 **speeds:** 20.9711 20.9711 17.9234 17.9234 17.9234 17.9234 17.9234 20.9711  
0 6 161 60 38 43 135 52 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 19.4471 19.4471 15.3304 20.9711  
0 96 107 90 142 160 146 152 46 126 0 **speeds:** 20.9711 20.9711 20.9711 22.5763 18.8817 18.8817 18.8817 18.8817 20.9711 20.9711  
0 199 109 37 130 5 156 91 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 17.8307 18.5584 18.5584 20.9711  
0 7 4 63 158 65 186 127 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 173 26 2 167 197 134 121 75 139 36 0 **speeds:** 20.9711 20.9711 19.2958 19.2958 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 195 71 9 178 137 42 70 165 1 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 111 175 55 23 133 73 132 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 74 192 18 136 128 3 176 92 0 **speeds:** 20.9711 19.1974 19.1974 19.1974 19.1974 19.1974 19.1974 20.9711 20.9711  
0 191 54 183 41 24 99 100 94 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 110 86 153 27 162 106 116 0 **speeds:** 20.9711 20.9711 18.3364 18.3364 18.3364 18.3364 18.3364 20.9711  
0 154 101 189 148 140 170 81 117 89 194 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 21 67 103 50 84 95 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 193 62 171 72 48 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 66 200 174 181 151 166 114 169 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 196 49 17 93 172 168 123 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 144 80 131 33 112 44 118 125 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 155 79 0 **speeds:** 20.9711 15.3304 20.9711  
0 31 180 159 190 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 141 97 182 25 34 185 143 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 61 29 32 68 145 85 8 53 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 122 102 164 64 57 113 12 39 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 138 147 16 129 188 157 47 15 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 184 82 13 150 76 19 149 78 105 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.751 20.751 20.751 20.751 20.9711  
0 59 104 28 88 83 87 30 0 **speeds:** 20.9711 24.9139 24.9139 24.9139 15.3304 24.7959 24.7959 20.9711  
0 108 56 69 22 14 120 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_04-A, ExecTime: 385.584s, Cost: 1824.2, 26 Vehicles**

0 40 30 90 142 160 54 126 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 135 43 38 168 172 93 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 31 180 72 190 159 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 161 2 167 139 75 121 134 197 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 78 51 177 141 97 182 25 106 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 118 44 103 33 143 1 131 10 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 119 85 28 145 83 87 191 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 32 68 39 194 12 113 117 89 88 146 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 154 189 164 128 64 3 57 81 170 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 132 169 73 114 133 61 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 76 102 18 136 198 124 115 192 187 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 165 71 34 162 178 9 137 42 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 116 70 185 27 153 86 110 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 29 166 151 82 184 104 59 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 46 183 152 99 100 41 24 94 130 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 79 96 107 163 179 111 53 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 4 63 175 195 158 65 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 125 67 112 77 48 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 15 47 157 156 188 129 5 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 92 200 66 105 101 148 176 140 13 181 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 193 62 171 120 49 196 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 23 58 174 50 84 80 144 95 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 186 11 22 69 56 108 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 150 149 74 98 122 19 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 138 127 52 20 199 155 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 147 16 109 37 173 26 60 123 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200.05-B, ExecTime: 682.363s, Cost: 2440.34, 27 Vehicles**

0 143 45 13 48 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 39 157 96 183 103 104 119 70 0 **speeds:** 20.9711 16.024 16.024 16.024 16.024 20.9711 20.9711 20.9711 20.9711  
0 132 147 89 87 107 97 122 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 120 7 91 40 66 81 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 16.1789 20.9711 20.9711  
0 108 77 137 153 121 98 27 172 0 **speeds:** 20.9711 20.9711 24.8121 24.8121 24.8121 24.8121 15.3304 20.9711 20.9711  
0 17 174 54 149 34 159 18 86 38 44 150 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 197 28 88 62 24 100 0 **speeds:** 20.9711 15.3304 19.126 19.126 20.9711 20.9711 20.9711  
0 21 177 187 110 133 94 64 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
0 126 161 155 63 178 25 196 0 **speeds:** 20.9711 16.5829 16.5829 16.5829 16.5829 20.9711 20.9711 20.9711  
0 1 47 10 78 141 85 37 182 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.5046 15.3304 15.3304 20.9711 20.9711  
0 186 166 36 73 58 188 189 30 68 0 **speeds:** 20.9711 20.9711 17.5799 17.5799 17.5799 15.3304 15.3304 15.3304 20.9711 20.9711  
0 129 2 163 193 76 194 83 57 0 **speeds:** 20.9711 17.5291 17.5291 17.5291 17.5291 17.5291 17.5291 20.9711 20.9711

0 9 136 114 124 168 50 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.1694 20.9711  
0 191 26 31 33 19 42 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 53 14 51 82 152 151 102 173 0 **speeds:** 20.9711 20.9711 21.9885 21.9885 21.9885 20.9711 20.9711 20.9711 20.9711  
0 200 113 190 144 6 148 8 55 101 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 170 29 142 84 158 176 175 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
0 65 164 99 72 184 5 125 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 22.3187 22.3187 20.9711  
0 15 106 127 179 43 67 138 95 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 165 145 52 93 92 105 60 23 156 0 **speeds:** 20.9711 20.9711 23.3166 23.3166 23.3166 23.3166 20.9711 20.9711 20.9711 20.9711  
0 3 16 199 111 41 80 116 0 **speeds:** 20.9711 20.9711 20.9711 17.7373 20.9711 20.9711 20.9711 20.9711  
0 12 167 115 112 20 135 0 **speeds:** 20.9711 20.9711 15.9337 23.3053 23.3053 15.3304 20.9711  
0 123 109 169 56 59 139 162 130 171 131 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 32 195 181 49 35 74 192 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 61 154 180 146 198 185 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 90 11 69 117 128 75 140 71 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.9485 15.9485 15.9485 20.9711  
0 22 160 118 134 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_05-C, ExecTime: 463.008s, Cost: 2229.53, 27 Vehicles**

0 79 170 136 114 191 143 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 4 182 197 77 108 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 131 15 67 162 16 179 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 195 186 118 180 154 134 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 12 68 40 91 7 30 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
0 190 110 188 189 187 21 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 166 6 148 177 74 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 100 37 85 155 178 63 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 123 95 183 96 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 19 29 176 84 142 158 42 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
0 9 33 26 65 164 31 175 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 17 129 174 44 38 86 163 76 83 194 193 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 115 81 66 64 133 94 120 113 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 126 28 159 18 150 57 167 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 53 13 51 173 124 168 50 0 **speeds:** 20.9711 18.7218 18.7218 20.9711 20.9711 20.9711 20.9711 20.9711  
0 39 14 97 147 89 139 169 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.0376 20.0376 20.0376 20.0376 20.9711  
0 46 181 49 192 58 73 36 144 55 101 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 157 59 60 165 92 117 128 93 140 71 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 17.4459 17.4459 17.4459 17.4459 20.9711

0 161 27 98 5 78 184 125 47 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 135 70 20 200 119 104 32 103 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 107 105 199 111 41 132 87 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 3 127 122 151 80 152 116 82 102 48 0 **speeds:** 20.9711 20.9711 24.4749 24.4749 24.4749 24.4749 24.4749 22.1801 22.1801 22.1801 20.9711  
0 99 72 10 141 196 25 121 137 0 **speeds:** 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 22 138 56 198 160 112 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 145 69 23 75 156 52 11 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 172 153 24 54 62 88 34 149 2 0 **speeds:** 20.9711 20.9711 20.9711 18.4778 18.4778 18.4778 20.9711 20.9711 20.9711 20.9711  
0 109 61 146 185 171 130 106 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_05-A, ExecTime: 352.681s, Cost: 2076.67, 27 Vehicles**

0 175 9 33 31 26 65 164 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 101 190 189 187 58 188 110 113 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 48 97 107 41 199 111 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 68 66 91 40 194 83 193 150 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 4 182 197 129 77 172 108 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 143 0 **speeds:** 20.9711 20.9711  
0 11 145 69 23 92 165 71 59 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 106 130 16 162 67 171 169 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 167 135 115 32 104 112 195 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 160 180 118 134 103 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 100 141 10 184 125 47 72 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 55 144 36 73 21 8 148 6 166 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 39 45 3 13 51 14 53 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 15 43 139 132 147 89 87 179 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 126 25 121 27 161 85 196 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 186 181 177 74 192 35 49 154 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 70 46 119 200 20 57 12 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 2 159 163 76 86 38 18 44 34 174 149 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 81 64 7 133 94 120 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 123 96 22 109 90 183 95 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 52 156 75 140 93 128 117 105 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 176 158 84 142 29 19 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 191 114 136 50 124 168 170 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 28 54 62 88 24 137 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 173 102 116 82 152 80 151 122 127 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 153 178 63 155 98 5 78 99 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 157 131 138 185 198 146 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_06-B, ExecTime: 572.942s, Cost: 2130.1, 27 Vehicles**

0 100 68 184 61 167 103 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 24.636 24.636 20.9711  
0 46 60 10 99 116 19 195 81 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 30 127 189 172 178 154 39 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 110 16 158 200 57 117 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 173 179 70 125 66 175 28 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 186 72 36 129 145 56 73 162 14 98 0 **speeds:** 20.9711 24.8774 23.3761 23.3761 23.3761 23.3761 23.3761 23.3761 15.3304 15.3304 20.9711  
0 118 181 83 146 58 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 44 164 153 25 113 34 157 112 48 163 0 **speeds:** 20.9711 19.532 19.532 19.532 17.129 17.129 17.129 20.9711 20.9711 20.9711 20.9711  
0 156 168 114 171 38 152 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 7 106 24 32 41 155 194 0 **speeds:** 20.9711 20.9711 21.5685 21.5685 20.9711 20.9711 20.9711 20.9711  
0 133 45 134 108 63 2 11 0 **speeds:** 20.9711 16.2395 16.2395 16.2395 16.2395 20.9711 20.9711 20.9711  
0 21 142 74 148 35 138 196 5 190 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 47 29 33 123 80 159 23 96 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711  
0 141 75 131 43 137 54 87 31 144 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711  
0 40 147 105 188 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 92 27 166 78 109 101 0 **speeds:** 20.9711 15.3304 15.3304 19.1024 19.1024 20.9711 20.9711  
0 76 135 107 97 62 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 3 67 149 177 79 132 0 **speeds:** 20.9711 16.481 16.481 15.3304 15.3304 20.9711 20.9711  
0 120 37 192 18 49 180 197 139 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 185 126 174 55 170 22 65 183 0 **speeds:** 20.9711 20.5947 20.5947 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
0 8 26 104 88 191 143 193 94 0 **speeds:** 20.9711 20.9711 20.9711 16.6619 16.6619 19.6 20.9711 20.9711 20.9711  
0 64 20 128 50 95 71 165 15 77 0 **speeds:** 20.9711 16.0594 16.0594 15.759 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 136 187 1 102 52 182 150 13 0 **speeds:** 20.9711 17.4398 17.4398 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 151 122 130 12 84 82 198 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 124 140 90 4 161 169 59 199 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.5951 20.5951 20.5951 20.5951 20.9711  
0 9 86 53 42 160 89 6 115 121 91 0 **speeds:** 20.9711 18.4075 18.4075 18.4075 18.4075 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 111 69 119 51 17 176 93 0 **speeds:** 21.3795 23.6733 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_06-C, ExecTime: 364.428s, Cost: 1942.75, 27 Vehicles**

0 188 149 55 170 79 132 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 24 196 138 103 35 76 58 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 7 47 23 96 29 155 190 106 0 **speeds:** 20.9711 20.9711 20.9711 17.8879 17.8879 17.8879 17.8879 15.3304 20.9711  
 0 8 63 104 191 26 134 19 99 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 185 41 194 33 11 159 123 88 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 5 32 171 38 168 114 142 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 9 176 17 198 94 183 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 57 98 162 129 72 36 145 56 73 14 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
 0 152 85 175 66 25 179 173 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 109 64 77 136 169 20 15 128 59 177 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 23.1876 20.9711 20.9711  
 0 147 40 62 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 140 161 165 90 4 71 124 78 0 **speeds:** 20.9711 20.9711 20.0747 20.0747 20.0747 15.3304 21.5744 21.5744 20.9711  
 0 130 53 43 160 111 89 6 115 121 42 137 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 10 116 2 108 80 133 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 100 167 184 61 156 68 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 75 139 197 18 49 131 86 51 0 **speeds:** 20.9711 15.5205 15.5205 15.5205 15.5205 15.3304 15.3304 20.9711 20.9711  
 0 189 172 178 16 97 110 164 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 93 3 65 22 67 174 101 0 **speeds:** 20.9711 23.2274 24.3456 24.3456 24.3456 24.3456 24.3456 20.9711  
 0 28 125 112 70 113 34 157 48 117 158 148 107 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 135 186 153 74 146 21 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 199 150 187 1 102 54 52 12 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 46 193 81 120 195 141 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 82 122 180 69 119 192 37 143 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711  
 0 105 39 127 0 **speeds:** 20.9711 20.9711 15.3304 20.9711  
 0 154 200 181 83 163 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 13 182 91 87 84 151 144 126 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 118 27 95 50 92 166 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711

**Instance: UK200\_06-A, ExecTime: 365.391s, Cost: 1783.42, 27 Vehicles**

0 17 176 82 122 151 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 58 21 97 110 164 62 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 144 31 12 137 53 42 130 131 84 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 199 177 59 150 187 1 102 43 121 115 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 169 128 165 90 161 4 71 95 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 132 67 170 79 174 105 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 153 158 117 57 48 70 113 34 157 179 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 173 28 112 25 125 66 175 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 75 139 51 86 18 49 160 111 89 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 78 92 27 50 124 140 15 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 186 72 36 145 56 73 162 14 98 129 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 40 44 0 **speeds:** 20.9711 20.9711 20.9711  
0 141 134 26 191 88 104 2 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 76 35 103 138 196 24 152 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 10 45 108 116 63 19 99 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 94 46 60 81 195 198 193 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 93 183 3 65 22 126 188 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 185 106 190 41 155 194 29 47 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 32 168 171 38 114 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 107 74 142 146 135 16 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 147 127 39 189 172 178 154 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 96 23 33 11 159 123 80 133 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 163 83 181 200 166 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 120 37 192 197 180 69 119 143 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 101 149 77 136 64 118 109 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 55 13 52 182 54 91 87 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 100 167 68 184 61 156 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_07-B, ExecTime: 960.502s, Cost: 2265.67, 28 Vehicles**

0 37 159 48 183 170 68 12 0 **speeds:** 20.9711 20.9711 20.9711 15.5681 15.5681 20.9711 20.9711 20.9711  
0 99 172 155 160 129 104 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 175 100 158 63 198 55 156 168 80 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 15 11 139 59 54 75 164 163 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 196 49 103 98 120 195 141 165 0 **speeds:** 20.9711 20.9711 20.9711 22.2 22.2 22.2 22.2 22.2 20.9711  
0 85 20 118 187 114 125 40 179 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 22.6022 22.6022 20.9711  
0 161 134 188 138 1 126 167 182 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.5338 15.5338 15.5338 20.9711 20.9711 20.9711  
0 74 194 151 191 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 200 162 174 52 13 43 143 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 185 176 70 132 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 76 61 169 113 72 166 199 0 **speeds:** 20.9711 16.3476 16.3476 16.3476 16.3476 20.9711 20.9711 20.9711  
0 79 41 22 96 51 115 128 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 140 197 108 86 71 124 130 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711



0 186 184 18 116 171 73 0 **speeds:** 20.9711 22.5479 22.5479 15.4785 15.3304 20.9711 20.9711  
 0 23 57 91 81 145 30 87 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
 0 38 148 5 78 133 144 88 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 3 66 121 150 21 33 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 97 122 31 142 173 190 93 152 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
 0 111 102 26 119 50 192 189 180 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
 0 123 82 193 29 146 154 105 25 109 0 **speeds:** 20.9711 20.9711 17.8895 19.9167 19.9167 19.9167 19.9167 19.9167 20.9711  
 0 177 45 8 107 95 19 67 0 **speeds:** 20.9711 15.3304 23.3848 23.3848 23.3848 23.3848 20.9711 20.9711  
 0 44 46 39 7 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 47 127 90 36 101 2 9 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 131 77 147 42 94 178 60 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
 0 24 28 65 69 117 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 27 181 14 64 149 135 153 53 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 136 32 92 58 34 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711  
 0 17 112 110 84 106 137 62 56 157 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_07-C, ExecTime: 608.38s, Cost: 2086.73, 27 Vehicles**

0 53 153 149 64 114 60 94 178 179 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 18.4754 18.4754 20.9711 20.9711  
 0 107 9 6 12 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 75 76 181 27 59 71 164 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
 0 72 169 22 23 86 79 11 0 **speeds:** 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 54 61 113 91 147 96 51 41 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 37 117 34 92 58 135 130 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 128 115 57 199 81 166 42 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 159 28 125 187 118 40 69 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
 0 70 176 131 163 132 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 38 145 87 133 78 144 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 25 142 189 180 119 102 111 173 67 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 18.7064 18.7064 18.7064 20.9711  
 0 141 98 105 122 154 82 29 97 31 0 **speeds:** 20.9711 16.7567 16.7567 16.7567 16.7567 16.7567 16.7567 19.3787 19.3787 20.9711  
 0 99 3 21 150 160 162 100 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 83 46 80 7 157 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 185 123 109 182 195 49 103 120 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 74 191 194 177 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 108 197 138 188 88 134 4 1 196 165 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 14 65 139 20 24 85 15 124 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 127 90 18 184 171 116 47 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 21.9512 20.9711  
0 136 68 48 2 36 73 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 17 43 13 50 192 146 193 19 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 151 190 26 121 66 143 10 0 **speeds:** 20.9711 24.4668 24.4668 24.4668 24.4668 24.4668 20.9711 20.9711  
0 77 30 5 148 126 161 167 140 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 172 93 174 129 52 104 155 152 200 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 33 16 158 112 106 62 137 175 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 39 56 84 110 55 198 63 156 168 0 **speeds:** 20.9711 20.9711 20.9711 18.0181 18.0181 18.0181 20.9711 20.9711  
0 95 8 35 32 170 183 101 186 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_07-A, ExecTime: 378.022s, Cost: 1904.48, 27 Vehicles**

0 185 67 19 74 191 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 194 83 46 157 89 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 147 81 166 42 94 178 60 114 64 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 75 76 61 22 51 115 128 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 35 32 68 170 48 2 36 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 140 1 4 167 195 98 120 103 49 182 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 109 193 105 31 122 154 97 146 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 25 142 189 29 192 180 111 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 177 95 107 136 45 53 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 164 71 23 41 86 163 131 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 7 80 39 62 137 175 16 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 176 108 197 138 188 88 134 196 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 151 143 66 121 190 173 123 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 155 43 174 129 52 160 162 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 73 101 183 127 47 186 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 65 69 125 187 118 40 179 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 99 150 104 13 50 119 102 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 158 100 112 106 84 63 198 55 110 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 168 156 171 116 18 184 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 153 34 58 92 149 135 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 77 38 5 144 148 126 161 141 165 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 145 87 133 78 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 33 200 152 93 172 21 3 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 96 113 57 199 91 72 169 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 70 79 11 24 85 15 124 130 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 54 59 27 181 14 139 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 132 37 159 117 12 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_08-B, ExecTime: 2960.24s, Cost: 2391.4, 27 Vehicles**

0 196 112 123 64 146 96 0 **speeds:** 20.9711 16.5386 16.5386 16.5386 16.5386 20.9711 20.9711  
0 118 82 2 20 199 45 0 **speeds:** 20.9711 20.9711 21.2961 21.2961 20.9711 20.9711 20.9711  
0 12 149 93 29 74 167 16 107 0 **speeds:** 20.9711 20.9711 15.3675 15.3304 15.3304 15.3304 15.3304 18.063 20.9711  
0 132 73 67 198 21 155 34 188 174 178 0 **speeds:** 20.9711 17.0417 16.5186 16.5186 16.5186 16.5186 23.1228 18.105 18.105 20.9711 20.9711  
0 176 166 162 92 46 52 0 **speeds:** 20.9711 20.9711 20.9711 15.6995 15.6995 15.6995 20.9711  
0 156 127 98 184 8 3 49 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 16.1284 20.9711  
0 87 11 40 100 163 18 191 53 0 **speeds:** 20.9711 20.9711 16.9465 16.9465 16.9465 15.3304 20.9711 20.9711 20.9711  
0 147 168 104 124 175 4 0 **speeds:** 20.9711 20.9711 20.9711 21.7391 21.7391 20.9711 20.9711  
0 28 86 197 136 22 101 31 38 63 173 0 **speeds:** 20.9711 17.0469 15.3304 15.3304 15.3304 19.506 19.506 15.3304 20.9711 20.9711 20.9711  
0 165 68 66 193 24 97 161 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 80 120 139 135 182 130 192 0 **speeds:** 20.9711 20.9711 16.4421 16.4421 16.4421 15.3304 20.9711 20.9711  
0 170 41 177 36 65 47 0 **speeds:** 20.9711 21.5429 16.9482 16.9482 16.9482 15.3304 20.9711  
0 138 75 94 164 5 14 140 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 25 23 57 111 90 42 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 6 7 37 76 142 145 154 0 **speeds:** 20.9711 20.9711 18.617 18.617 20.9711 20.9711 20.9711 20.9711  
0 35 169 30 55 183 85 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 119 102 48 105 133 26 19 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 23.2058 20.9711  
0 17 103 158 189 143 179 51 91 115 88 128 54 0 **speeds:** 20.9711 23.9283 23.9283 23.9283 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 39 110 148 113 159 15 180 187 150 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 9 27 43 172 131 99 137 44 0 **speeds:** 20.9711 17.5255 17.5255 16.6303 16.6303 16.6303 16.6303 16.6303 20.9711  
0 78 117 106 89 194 69 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 195 77 70 121 190 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 83 160 125 81 1 56 114 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 108 122 62 72 109 185 157 84 0 **speeds:** 20.9711 20.9711 20.9711 22.8373 22.8373 22.8373 22.8373 20.9711 20.9711  
0 181 32 126 153 144 50 58 171 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 200 61 116 33 71 141 13 0 **speeds:** 20.9711 21.3622 21.3622 15.3304 15.3304 15.3304 20.9711 20.9711  
0 152 129 95 134 59 151 186 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_08-C, ExecTime: 367.24s, Cost: 2172.12, 27 Vehicles**

0 70 151 77 161 146 195 186 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 84 169 171 185 15 180 72 109 58 157 0 **speeds:** 20.9711 20.9711 18.7109 18.7109 18.7109 18.7109 18.7109 20.9711 20.9711 20.9711 20.9711  
0 155 149 198 73 21 67 29 93 0 **speeds:** 20.9711 23.0033 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 191 18 104 34 188 107 12 124 163 132 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 16.1204 16.1204 16.1204 20.9711 20.9711 20.9711 20.9711  
0 168 1 81 125 160 147 0 **speeds:** 20.9711 16.4557 16.4557 16.4557 22.678 22.678 20.9711  
0 75 135 153 126 17 139 120 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 39 35 30 187 194 69 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 174 40 16 167 74 36 177 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 121 119 190 79 173 96 19 0 **speeds:** 20.9711 20.9711 17.1169 17.1169 17.1169 17.1169 20.9711 20.9711  
0 118 92 110 85 83 56 114 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 41 61 57 23 90 127 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 181 32 27 137 158 172 99 131 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 53 4 100 87 175 178 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 200 141 111 25 123 64 156 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 28 86 105 197 22 143 136 101 115 91 49 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 17.2757 17.2757 20.9711 20.9711 20.9711 20.9711  
0 52 192 162 55 148 159 183 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 37 80 164 5 94 62 0 **speeds:** 20.9711 20.9711 23.08 23.08 23.08 23.08 20.9711  
0 54 63 196 31 112 38 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
0 3 66 44 43 103 189 51 133 193 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.0493 20.0493 20.0493 20.9711 20.9711 20.9711  
0 82 45 2 113 199 20 150 0 **speeds:** 20.9711 24.7146 24.7146 24.7146 24.7146 20.9711 20.9711 20.9711  
0 47 65 71 33 116 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 106 89 14 144 182 130 50 140 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 18.7905 17.8639 17.8639 20.9711 20.9711  
0 165 24 179 48 88 128 102 98 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 6 152 9 134 95 129 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 78 122 76 142 145 154 138 117 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 170 108 166 10 176 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 59 184 68 8 26 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_08-A, ExecTime: 311.811s, Cost: 2011.54, 27 Vehicles**

0 41 71 33 116 57 61 141 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 195 64 123 25 111 23 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 58 185 109 72 180 15 159 148 55 150 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 126 17 103 131 43 44 99 172 158 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 97 86 22 136 88 101 31 112 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 146 161 98 77 60 165 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 54 28 63 196 197 128 102 193 173 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 35 30 187 183 194 171 169 140 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 133 51 91 115 189 48 143 105 179 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 117 62 138 145 142 76 122 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 75 181 32 27 137 66 49 59 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 94 14 5 144 80 37 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 114 56 83 1 81 125 104 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 87 11 36 177 65 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 164 135 153 139 120 182 130 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 52 192 118 92 110 85 162 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 121 184 3 68 8 26 24 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 19 156 96 127 42 90 200 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 176 10 166 84 108 170 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 186 79 119 190 151 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 160 155 21 73 67 12 188 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 178 175 100 40 107 124 163 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 39 82 2 45 20 113 199 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 69 157 106 89 50 154 78 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 6 152 9 134 95 129 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 53 4 132 191 147 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 174 16 74 167 93 29 149 198 168 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_09-B, ExecTime: 658.384s, Cost: 2157.22, 26 Vehicles**

0 200 147 17 82 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 186 131 141 78 190 140 27 194 51 0 **speeds:** 20.9711 18.1062 18.8109 18.8109 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 38 5 70 71 127 12 187 56 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 137 181 168 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 40 166 50 72 54 173 81 10 6 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 15.8648 20.9711  
0 105 86 169 196 106 103 66 198 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 197 59 9 93 58 67 97 0 **speeds:** 20.9711 20.9711 20.9711 18.6838 18.6838 20.9711 20.9711 20.9711  
0 118 65 44 7 53 125 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 158 191 101 84 144 172 162 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
0 149 36 170 143 95 28 108 0 **speeds:** 20.9711 22.627 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 68 134 90 25 148 182 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 146 183 52 153 159 195 89 99 8 0 **speeds:** 20.9711 20.9711 19.8899 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 16 188 145 179 57 96 110 0 **speeds:** 20.9711 20.9711 20.4223 20.4223 20.4223 15.3304 20.9711 20.9711

0 175 117 26 87 115 174 85 163 35 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
0 111 39 171 126 48 142 64 80 128 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 16.4473 15.3304 15.3304 20.9711 20.9711 20.9711  
0 157 135 138 2 132 193 42 69 41 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 16.4028 16.4028 16.4028 20.9711 20.9711 20.9711  
0 63 14 180 98 104 133 61 75 151 0 **speeds:** 20.9711 20.9711 21.7905 21.7905 21.7905 21.7905 22.425 22.425 22.425 21.7817  
0 116 92 43 34 178 192 112 177 11 0 **speeds:** 20.9711 20.9711 20.9711 24.7379 24.7379 24.7379 24.7379 24.7379 24.7379 20.9711  
0 136 74 94 15 154 19 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 199 49 31 124 156 155 37 113 176 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 21 1 55 160 22 150 161 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711  
0 88 83 20 164 29 130 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 30 189 33 139 23 18 102 0 **speeds:** 20.9711 20.9711 20.9711 16.5573 16.5573 16.5573 20.9711 20.9711  
0 76 73 24 3 152 121 32 122 47 184 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.4437 15.4437 15.4437 20.9711 20.9711  
0 129 119 185 120 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 109 123 114 165 45 107 167 100 62 0 **speeds:** 20.9711 20.9711 20.9711 16.8768 16.8768 16.8768 16.8768 20.9711 20.9711 20.9711

**Instance: UK200\_09-C, ExecTime: 656.311s, Cost: 1918.14, 25 Vehicles**

0 199 197 95 108 28 196 105 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 148 47 122 74 136 8 68 103 0 **speeds:** 20.9711 20.9711 22.3407 22.3407 22.3407 20.9711 20.9711 20.9711 20.9711  
0 80 142 140 78 27 194 190 141 64 85 0 **speeds:** 20.9711 20.9711 15.6255 15.6255 15.6255 15.6255 15.6255 23.9434 20.9711 20.9711 20.9711  
0 101 9 191 158 58 162 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 66 169 143 36 164 63 30 0 **speeds:** 20.9711 22.6071 22.6071 15.5 20.9711 20.9711 20.9711 20.9711  
0 96 21 83 88 189 39 171 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 49 183 44 195 125 19 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 102 61 104 107 165 45 114 75 167 23 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 184 73 32 121 152 3 12 70 5 127 71 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.8028 20.9711 20.9711 20.9711 20.9711  
0 154 94 38 187 15 24 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 111 130 29 18 149 57 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 20 139 180 98 123 133 41 109 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 84 151 42 69 135 157 100 62 170 0 **speeds:** 20.9711 16.7299 16.7299 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 119 163 174 129 120 4 185 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 86 172 37 176 113 52 153 159 53 0 **speeds:** 20.9711 22.7683 22.7683 22.7683 22.7683 22.7683 22.7683 22.7683 15.3304 20.9711  
0 182 198 82 17 106 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 51 173 54 166 72 50 48 1 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 118 124 156 155 59 65 31 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 11 91 34 160 126 177 178 14 33 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 200 128 179 110 145 188 131 186 60 40 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 147 77 137 76 181 168 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711  
0 7 67 2 93 138 132 193 144 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 175 117 6 35 87 26 10 81 115 16 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 17.9529 17.9529 17.9529 17.9529 17.9529 20.9711 20.9711  
0 116 161 92 43 150 22 192 112 55 0 **speeds:** 20.9711 17.7246 17.7246 17.7246 18.2919 18.2919 18.2919 20.9711 20.9711 20.9711  
0 99 89 13 146 90 134 25 0 **speeds:** 20.9711 20.9711 23.5872 23.5872 23.5872 15.3304 15.3304 20.9711

**Instance: UK200\_09-A, ExecTime: 353.974s, Cost: 1753.79, 25 Vehicles**

0 1 55 161 91 11 131 188 117 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 189 20 139 39 171 178 177 126 116 128 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 40 175 110 179 186 60 200 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 97 67 58 2 93 138 132 151 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 92 160 43 34 112 192 22 150 48 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 57 96 21 83 88 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 102 111 130 164 29 170 18 109 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 68 136 56 19 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 77 182 66 103 199 106 105 198 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 196 108 95 197 143 36 169 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 147 79 17 82 137 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 25 134 38 187 15 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 6 16 35 26 87 85 163 174 129 120 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 145 51 173 166 50 72 54 80 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 23 167 75 69 165 45 114 107 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 76 181 47 94 122 74 154 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 90 99 89 146 13 125 53 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 63 33 14 180 98 123 133 104 41 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 10 81 141 140 27 194 190 78 64 142 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 118 101 9 191 158 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 184 168 73 46 185 119 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 183 7 176 113 52 153 159 195 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 24 32 121 3 152 12 71 70 5 127 115 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 149 100 157 42 135 193 84 144 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 62 162 172 65 59 155 156 124 31 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_10-B, ExecTime: 467.308s, Cost: 2505.85, 28 Vehicles**

0 170 103 3 17 36 5 133 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 41 138 156 87 139 183 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 120 132 193 8 145 25 19 15 32 58 0 **speeds:** 20.9711 20.9711 15.3304 17.6623 17.6623 17.6623 17.6623 20.6312 15.3304 20.9711 20.9711  
 0 84 21 154 1 182 55 175 129 69 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 79 198 76 114 179 89 27 162 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 17.2137 17.2137 20.9711 20.9711  
 0 164 64 152 48 82 66 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 17.3123 17.3123 20.9711  
 0 160 56 121 78 49 146 104 0 **speeds:** 20.9711 20.9711 24.2164 24.2164 15.3304 15.3304 20.9711 20.9711  
 0 37 24 59 188 167 159 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 141 18 142 34 50 28 199 0 **speeds:** 20.9711 19.8279 19.8279 15.3304 15.7088 15.7088 20.9711 20.9711  
 0 168 190 68 11 101 7 169 73 165 86 0 **speeds:** 20.9711 20.9711 20.9711 17.274 17.274 17.274 17.274 20.9711 20.9711 20.9711 20.9711  
 0 29 44 100 123 80 122 197 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 35 163 177 194 181 98 0 **speeds:** 20.9711 20.9711 20.2174 20.2174 20.2174 20.2174 20.9711  
 0 70 118 113 110 147 12 63 189 0 **speeds:** 20.9711 16.064 16.064 16.064 16.064 15.3304 15.3304 20.9711 20.9711  
 0 83 40 95 176 128 4 200 0 **speeds:** 20.9711 16.381 16.381 16.381 16.381 16.381 20.9711 20.9711  
 0 91 143 150 109 94 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 47 75 26 112 125 10 54 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 24.9176 15.3304 15.3304 20.9711  
 0 105 111 43 185 85 172 99 102 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 106 72 173 126 51 53 117 65 0 **speeds:** 20.9711 22.0042 22.0042 22.0042 22.0042 22.0042 20.9711 20.9711 20.9711  
 0 124 186 90 45 93 166 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 155 180 130 6 140 74 2 192 30 0 **speeds:** 20.9711 17.2908 17.2908 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 61 115 151 127 88 16 22 0 **speeds:** 20.9711 20.9711 15.6359 15.6359 15.6359 15.3304 20.9711 20.9711  
 0 46 184 31 148 161 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 97 62 144 135 92 136 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 137 13 158 42 33 57 149 171 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
 0 67 14 81 38 131 134 119 153 0 **speeds:** 20.9711 20.9711 20.9711 19.6207 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 9 20 108 71 196 107 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 52 96 187 77 23 178 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 174 195 191 116 39 157 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 18.3794 20.9711 20.9711

**Instance: UK200\_10-C, ExecTime: 440.006s, Cost: 2246.26, 27 Vehicles**

0 61 183 127 33 87 115 105 0 **speeds:** 20.9711 20.9711 19.1156 19.1156 19.1156 19.1156 20.9711 20.9711  
 0 71 104 198 89 27 121 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 181 119 188 163 147 12 144 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 5 81 191 116 39 55 182 154 0 **speeds:** 20.9711 20.9711 21.7711 21.7711 21.7711 21.7711 21.7711 21.7711  
 0 193 43 42 158 185 85 172 13 20 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 200 166 161 2 74 31 184 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711



0 46 155 130 6 140 180 124 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 195 80 44 100 123 122 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 65 88 120 171 8 145 25 16 22 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 84 194 118 177 59 110 24 189 0 **speeds:** 20.9711 20 20 20 20 20.9711 20.9711 20.9711 20.9711  
0 94 159 97 66 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 108 76 179 114 146 49 78 79 162 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 16.1653 20.9711 20.9711 20.9711  
0 96 187 60 135 92 136 48 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 125 10 176 128 95 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 106 72 26 75 54 112 173 32 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 21.6727 21.6727 20.9711  
0 41 111 99 102 137 160 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 62 82 37 167 63 98 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 152 77 86 165 175 129 73 1 113 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 150 91 143 133 29 199 109 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 67 38 131 157 134 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 47 58 51 15 126 53 117 19 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 196 21 101 11 168 190 68 69 7 169 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
0 156 132 57 149 151 139 138 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 192 30 50 142 28 34 18 141 0 **speeds:** 20.9711 20.2374 20.2374 20.2374 20.2374 20.2374 20.9711 20.9711 20.9711  
0 9 164 107 23 64 178 52 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 14 17 197 3 174 103 170 153 0 **speeds:** 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 186 148 93 90 45 40 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_10-A, ExecTime: 281.02s, Cost: 2113.36, 27 Vehicles**

0 35 52 66 159 94 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 81 103 174 3 197 133 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 31 155 180 140 6 130 2 74 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 17 36 14 157 118 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 71 27 89 198 179 114 146 49 78 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 65 19 117 53 51 126 15 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 141 18 192 30 50 142 28 109 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 60 135 21 68 169 11 190 168 162 136 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 46 150 199 29 143 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 108 20 99 102 137 160 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 98 84 181 119 194 188 63 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 12 113 1 154 59 177 163 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 110 182 73 55 129 175 165 101 7 69 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 105 41 111 43 193 139 138 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 200 186 90 45 40 83 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 61 120 88 171 8 145 25 16 22 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 176 128 95 26 75 54 112 72 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 100 44 80 123 122 195 153 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 58 32 173 125 10 106 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 183 156 127 151 115 87 132 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 178 82 96 77 48 187 152 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 23 196 92 79 121 76 104 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 149 57 33 185 158 42 85 172 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 67 170 38 191 116 39 131 134 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 189 144 147 24 167 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 124 184 166 161 93 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 9 164 107 64 62 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200.11-B, ExecTime: 441.836s, Cost: 2199.45, 27 Vehicles**

0 62 36 119 166 28 167 173 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 171 162 100 21 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 156 6 22 112 165 89 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
0 191 56 174 130 140 153 200 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 19.1339 20.9711 20.9711  
0 184 90 40 26 11 96 182 4 0 **speeds:** 20.9711 20.9711 20.9711 15.853 15.3304 15.3304 20.9711 20.9711  
0 86 185 150 46 143 135 104 111 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 21.9043 21.9043 21.9043 20.9711  
0 80 126 113 13 120 107 181 48 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 20 194 158 198 139 1 53 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 21.3644 21.3644 21.3644 21.1992  
0 52 160 54 102 2 109 42 73 18 101 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.7442 15.7442 15.7442 15.3304 20.7405 20.9711  
0 196 164 155 122 77 60 83 159 0 **speeds:** 20.9711 19.7289 19.7289 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 187 58 91 141 15 64 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 32 50 75 127 95 138 69 0 **speeds:** 20.9711 20.9711 20.9711 21.1279 21.1279 21.1279 21.1279 21.1279  
0 147 179 70 88 14 99 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 133 199 87 103 65 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 49 79 34 170 131 92 175 67 0 **speeds:** 20.9711 20.9711 22.9107 22.9107 20.9711 20.9711 20.9711 20.9711  
0 78 76 94 66 105 176 125 177 84 145 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 16.0853 16.0853 16.0853 16.0853 17.8374 20.9711 20.9711  
0 163 68 55 154 27 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 118 35 98 148 59 39 151 178 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 110 189 157 44 117 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 193 85 82 72 24 190 33 123 19 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 168 134 142 16 3 57 0 **speeds:** 20.9711 19.0301 19.0301 19.0301 19.0301 19.0301 20.9711  
0 188 71 114 129 161 124 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 25 186 169 63 197 172 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 74 31 132 38 17 7 106 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3509 20.9711  
0 128 144 149 45 51 136 152 146 116 183 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.4514 15.4514 15.4514 15.4514 20.9711  
0 137 192 81 23 93 61 108 12 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 41 180 5 121 30 115 43 195 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 19.8718 20.9711 20.9711 20.9711

**Instance: UK200\_11-C, ExecTime: 405.365s, Cost: 1967.5, 27 Vehicles**

0 57 166 167 36 186 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 48 126 113 120 181 69 184 193 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 66 94 79 150 46 143 177 176 131 170 84 86 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 85 50 31 75 74 19 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 62 25 28 63 119 173 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 12 112 161 81 23 93 61 0 **speeds:** 20.9711 20.9711 18.2388 18.2388 18.2388 18.2388 18.2388 20.9711  
0 97 44 117 33 158 20 195 0 **speeds:** 20.9711 20.9711 20.5282 20.5282 20.5282 20.5282 20.5282 20.9711  
0 29 80 187 27 68 133 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 172 78 76 175 145 91 8 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 88 87 21 162 100 171 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
0 32 95 40 11 26 148 90 106 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 197 9 188 114 165 129 192 128 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 43 1 194 73 198 42 109 160 54 169 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 53 157 190 24 139 189 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 180 200 41 153 121 130 174 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 64 58 55 15 154 141 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 71 156 6 22 124 142 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 147 179 103 99 14 65 0 **speeds:** 20.9711 20.9711 20.9711 22.7983 22.7983 22.7983 20.9711  
0 67 92 104 159 164 163 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 70 13 47 107 96 182 4 138 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 116 152 45 146 149 51 136 183 144 105 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.2641 20.2641 20.2641 20.2641 20.9711 20.9711  
0 199 185 135 125 34 49 0 **speeds:** 20.9711 20.9711 20.3288 15.3304 15.3304 20.9711 20.9711  
0 191 56 30 140 2 102 115 52 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 111 196 60 122 77 155 83 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 123 38 110 72 132 101 98 35 118 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 127 151 39 178 59 18 82 17 7 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 168 89 134 137 108 16 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_11-A, ExecTime: 315.201s, Cost: 1822.59, 27 Vehicles**

0 150 46 177 143 162 100 21 171 196 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 114 156 6 22 23 93 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 165 129 112 124 81 161 192 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 57 173 28 186 25 62 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 107 11 26 151 178 39 59 17 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 168 197 89 9 188 71 128 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 134 12 137 142 108 16 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 85 50 35 98 101 132 31 74 118 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 187 27 68 111 164 163 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 52 191 56 102 174 130 2 115 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 123 139 24 190 73 198 42 189 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 97 53 157 44 1 195 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 43 54 20 160 109 194 158 33 117 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 41 200 180 153 121 30 140 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 154 15 55 185 49 145 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 105 116 144 149 146 45 152 51 136 183 176 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 78 76 175 66 94 79 67 84 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 147 87 179 14 99 65 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 19 75 38 110 72 18 82 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 37 169 36 119 167 63 166 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 141 92 104 135 125 131 170 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 193 184 69 138 95 127 106 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 48 126 113 181 88 13 70 103 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 32 90 4 40 182 96 47 120 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 29 80 133 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 199 172 91 58 64 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 10 60 122 77 155 83 159 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_12-B, ExecTime: 1316.31s, Cost: 2460.61, 26 Vehicles**

0 121 132 136 123 170 7 111 149 144 69 134 0 **speeds:** 20.9711 24.8405 24.8405 15.3304 15.3304 15.3304 15.3304 15.3304 23.0769 23.0769 23.0769 20.9711

0 27 95 37 137 162 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 82 124 109 173 45 164 62 192 0 **speeds:** 20.9711 23.9779 23.9779 23.9779 15.3304 15.3304 18.698 20.9711 20.9711  
0 127 63 83 46 112 156 55 24 117 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 191 135 81 1 90 84 43 98 0 **speeds:** 20.9711 23.8217 23.8217 23.8217 24.0573 24.0573 24.0573 24.0573 20.9711  
0 190 106 158 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 189 181 186 172 141 148 53 31 93 187 0 **speeds:** 20.9711 20.9711 20.9711 15.4658 15.3304 15.3304 17.0846 17.0846 20.9711 20.9711 20.9711  
0 120 11 145 74 13 47 155 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
0 160 15 22 166 101 66 56 161 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 195 23 29 86 143 91 159 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 23.6294 20.9711  
0 94 105 70 102 175 32 183 5 0 **speeds:** 20.9711 18.0412 18.0412 18.0412 18.0412 15.3304 15.3304 20.9711 20.9711  
0 67 97 38 125 169 3 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 17.2048 17.2048 19.9807 20.9711  
0 59 96 71 34 87 165 138 142 52 0 **speeds:** 20.9711 23.2252 23.2252 23.2252 23.2252 23.2252 23.2252 23.2252 20.9711 20.9711  
0 131 114 154 25 51 41 150 0 **speeds:** 20.9711 20.9711 20.9711 16.5489 16.5489 20.9711 20.9711 20.9711  
0 28 110 153 50 48 177 92 196 194 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 139 39 103 12 197 19 42 88 0 **speeds:** 20.9711 16.741 16.741 15.3304 15.3304 23.9302 23.9302 20.9711 20.9711  
0 200 151 89 113 116 185 76 128 0 **speeds:** 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 108 99 171 35 130 16 167 2 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 65 44 21 188 104 36 17 129 0 **speeds:** 20.9711 20.9711 20.9711 17.5069 17.5069 17.5069 20.8222 20.8222 20.9711  
0 115 119 54 64 180 72 78 80 0 **speeds:** 20.9711 15.3304 15.3304 16.4452 15.3304 15.3304 15.3304 20.9711 20.9711  
0 118 100 58 60 152 198 199 10 49 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 26 168 8 140 157 73 4 68 0 **speeds:** 20.9711 15.3304 15.3304 21.7409 21.7409 15.3304 15.486 20.9711 20.9711  
0 77 40 184 107 147 182 174 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 9 176 133 18 61 57 193 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711  
0 179 75 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 126 122 33 146 178 30 163 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711

**Instance: UK200\_12-C, ExecTime: 278.68s, Cost: 2218.78, 25 Vehicles**

0 50 177 2 167 16 35 130 171 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 77 170 29 149 195 80 67 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 165 157 73 71 131 114 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 59 96 194 140 87 34 154 41 150 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 79 200 116 151 76 113 126 122 75 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 18.062 18.062 18.062 18.062 18.062 20.9711  
0 139 48 153 51 196 92 25 168 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 156 55 83 6 181 137 5 135 191 0 **speeds:** 20.9711 15.3304 18.752 18.752 18.752 18.752 18.752 18.752 20.9711 20.9711  
0 158 162 112 24 117 63 127 106 0 **speeds:** 20.9711 20.9711 20.9711 19.9875 19.9875 19.9875 19.9875 19.9875 20.9711

0 190 189 93 46 187 186 90 84 141 172 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
 0 14 3 147 182 107 88 174 121 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 163 82 124 30 57 193 179 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 108 160 101 166 66 161 99 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 27 37 70 183 95 94 0 **speeds:** 20.9711 20.9711 20.9711 15.4142 15.4142 20.9711 20.9711  
 0 49 10 47 103 44 197 119 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 39 42 17 22 56 15 129 110 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 65 54 188 21 36 12 104 19 115 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 4 45 164 173 62 68 192 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 142 52 138 133 176 178 9 61 109 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
 0 128 18 146 33 89 185 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 144 118 120 143 32 175 91 125 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 81 1 148 53 31 43 98 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 111 7 199 64 58 100 180 60 72 13 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
 0 40 155 85 123 184 136 134 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 105 159 169 23 97 69 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 132 198 74 145 152 11 78 102 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_12-A, ExecTime: 333.405s, Cost: 2042.17, 25 Vehicles**

0 96 194 34 140 87 71 8 131 114 168 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 160 101 166 22 56 66 161 108 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 150 41 154 51 196 92 25 153 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 138 193 109 57 30 124 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 170 111 120 198 74 145 152 199 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 62 173 45 164 178 176 9 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 38 169 125 78 143 91 175 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 14 121 174 115 107 182 147 3 139 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 155 49 10 65 85 123 184 136 88 132 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 39 44 12 36 104 19 17 42 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 59 157 73 165 4 68 192 163 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 189 112 6 187 46 93 186 172 137 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 43 148 53 31 84 141 90 1 81 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 13 100 64 58 180 60 72 11 118 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 20 134 67 144 80 40 69 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 97 195 23 149 29 86 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 94 95 37 5 135 191 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 52 142 18 133 146 33 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 70 183 159 102 98 105 27 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 162 181 83 55 156 24 117 63 127 116 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 128 122 126 185 151 76 113 200 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 179 75 106 158 190 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 28 129 110 177 50 48 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 99 15 171 16 35 130 2 167 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 119 197 103 21 188 54 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_13-B, ExecTime: 716.621s, Cost: 2440.91, 26 Vehicles**

0 23 197 97 84 136 78 0 **speeds:** 20.9711 16.9381 16.9381 15.3304 20.9711 20.9711 20.9711  
0 177 31 74 4 152 96 32 178 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 64 120 81 167 182 33 103 180 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 37 93 174 127 139 42 18 144 48 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 66 145 168 92 21 65 114 126 10 62 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 60 154 12 1 41 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 189 46 5 166 77 63 44 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 131 160 105 188 194 36 38 175 71 0 **speeds:** 20.9711 20.9711 21.6555 21.6555 21.6555 15.5612 17.0631 17.0631 20.9711 20.9711  
0 122 82 52 95 169 150 163 83 104 0 **speeds:** 20.9711 16.0127 16.0127 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 9 94 20 25 153 0 **speeds:** 20.9711 20.9711 22.0022 22.0022 22.0022 20.9711  
0 195 140 90 13 109 76 112 118 0 **speeds:** 20.9711 21.9156 15.3304 15.3304 15.3304 15.3304 21.2212 21.2212 20.9711  
0 88 141 148 87 196 26 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 56 28 157 8 107 100 55 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 135 185 172 47 27 101 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 130 40 137 170 22 102 113 184 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 179 89 117 187 176 91 80 191 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.9812 15.9812 15.9812 20.9711  
0 186 3 142 156 2 192 106 108 0 **speeds:** 20.9711 20.9711 20.9711 16.4168 16.4168 16.4168 16.4168 20.9711 20.9711  
0 51 61 14 198 149 0 **speeds:** 20.9711 20.9711 20.9711 24.3056 24.3056 20.9711  
0 116 200 39 193 75 0 **speeds:** 20.9711 20.9711 20.6058 20.6058 20.6058 20.9711  
0 151 190 19 123 183 43 53 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 199 173 129 155 143 29 59 146 133 0 **speeds:** 20.9711 20.3505 20.3505 20.3505 16.9821 16.9821 15.3304 20.9711 20.9711 20.9711  
0 50 134 119 164 85 73 7 161 67 72 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 115 162 86 111 68 125 128 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 19.0244 20.9711  
0 165 58 110 147 34 158 54 98 79 159 11 0 **speeds:** 20.9711 19.3032 19.3032 19.3032 19.3032 19.3032 19.3032 19.3032 19.3032 20.9711 20.9711

0 181 35 138 132 124 171 99 24 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 70 45 57 69 15 121 49 0 **speeds:** 20.9711 20.9711 20.9711 16.8602 16.8602 16.8602 20.9711 20.9711

**Instance: UK200\_13-C, ExecTime: 1009.99s, Cost: 2204.4, 25 Vehicles**

0 126 147 34 111 68 98 79 110 159 66 11 0 **speeds:** 20.9711 20.9711 15.3304 18.2697 18.2697 18.2697 18.2697 18.7313 15.3304 20.9711 20.9711 20.9711  
0 153 70 193 62 75 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 51 37 101 27 61 133 151 78 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 173 149 185 135 14 190 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 142 107 8 170 22 157 74 4 156 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 165 171 124 158 54 125 58 99 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 22.565 22.565 22.565 20.9711  
0 48 17 139 191 174 186 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 22.4405 22.4405 20.9711  
0 6 112 197 23 76 109 97 84 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.821 20.821 20.821 15.6969 20.9711  
0 82 144 95 83 163 150 141 148 26 42 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 93 131 196 194 36 88 18 44 127 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 169 63 38 188 105 46 175 189 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 108 16 183 195 53 118 136 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 49 9 25 50 94 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 121 120 81 64 167 33 134 182 20 0 **speeds:** 20.9711 20.9711 20.9711 15.7887 15.7887 15.7887 15.7887 15.7887 20.9711 20.9711  
0 15 67 180 162 7 73 85 86 132 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 199 104 52 1 12 92 65 145 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 116 115 138 161 119 164 103 72 128 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 146 59 91 176 80 187 117 0 **speeds:** 20.9711 20.9711 20.9711 19.4729 20.9711 20.9711 20.9711 20.9711  
0 10 21 41 168 114 154 60 122 56 0 **speeds:** 20.9711 21.7863 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 184 130 47 177 28 31 143 179 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 89 29 160 71 166 77 5 87 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 45 181 57 69 24 39 200 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 40 155 137 113 102 96 55 192 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 19 106 178 32 90 140 13 123 0 **speeds:** 20.9711 20.9711 19.4426 19.4426 19.4426 15.3304 15.3304 20.9711 20.9711  
0 198 129 172 100 152 2 43 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 18.7104 18.7104 18.7104 20.9711

**Instance: UK200\_13-A, ExecTime: 382.531s, Cost: 2037.24, 25 Vehicles**

0 40 155 137 107 8 170 22 100 152 192 142 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 122 154 52 163 83 95 144 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 11 110 79 98 159 34 147 66 126 30 145 168 114 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 196 105 5 77 166 71 91 189 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711



0 9 94 39 128 200 57 181 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 10 41 21 92 65 12 1 104 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 153 70 45 69 193 62 116 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 49 20 25 50 180 67 115 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 15 134 182 33 167 64 120 81 84 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 6 106 2 156 178 32 90 112 13 140 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 184 14 198 135 47 149 130 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 60 82 141 169 150 88 18 44 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 19 4 172 28 129 185 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 3 151 190 61 133 173 27 101 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 121 103 161 164 119 73 85 7 162 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 199 48 17 127 139 131 174 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 56 51 186 75 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 24 165 99 58 132 72 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 108 16 43 183 123 195 53 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 74 113 157 102 96 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 125 68 111 54 158 171 124 86 138 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 177 31 29 143 59 146 179 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 136 118 23 197 109 76 97 78 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 191 117 187 175 46 160 176 80 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 42 63 36 194 38 188 87 26 93 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_14-B, ExecTime: 589.535s, Cost: 2306.6, 27 Vehicles**

0 157 111 163 47 162 156 187 0 **speeds:** 20.9711 20.9711 20.3321 20.3321 20.3321 20.3321 20.3321 20.9711  
 0 108 37 172 114 56 119 54 9 0 **speeds:** 20.9711 20.9711 20.8087 20.8087 20.8087 20.8087 20.9711 20.9711 20.9711  
 0 127 103 33 51 122 76 57 36 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 126 97 141 50 193 62 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 112 16 131 63 166 39 133 149 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
 0 77 191 137 30 64 84 17 145 0 **speeds:** 20.9711 15.3304 19.2267 19.2267 19.2267 19.2267 19.0052 19.0052 20.9711  
 0 198 125 106 45 143 120 199 0 **speeds:** 20.9711 15.3304 17.9668 17.9668 19.8452 19.8452 19.8452 20.9711  
 0 192 27 164 178 139 150 59 32 194 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 16.4778 16.4778 20.9711 20.9711 20.9711 20.9711  
 0 88 148 72 188 113 5 167 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
 0 183 195 101 35 117 85 0 **speeds:** 20.9711 22.2264 22.2264 22.2264 22.2264 22.2264 20.9711  
 0 118 169 128 49 28 40 155 0 **speeds:** 20.9711 21.5237 21.5237 21.5237 21.5237 21.5237 21.5237 20.9711  
 0 98 175 41 115 65 67 153 22 10 0 **speeds:** 20.9711 15.6179 15.6179 15.6179 15.3304 15.3304 21.8319 21.8319 21.8319 20.9711

0 168 197 123 80 15 71 136 91 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 147 83 142 176 60 29 21 55 179 165 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.4323 20.4323 15.3304 20.9711  
0 66 95 86 44 92 96 124 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 58 140 78 134 38 18 73 159 184 0 **speeds:** 20.9711 20.9711 22.8065 22.8065 15.4293 19.0286 19.0286 19.0286 19.0286 20.9711  
0 146 46 107 26 129 94 0 **speeds:** 20.9711 20.9711 20.7692 15.3304 15.3304 20.9711 20.9711  
0 99 61 186 68 190 171 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
0 180 105 138 177 89 43 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 22.3954 22.3954 20.9711 20.9711  
0 31 152 75 69 102 161 81 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 182 160 42 48 34 174 0 **speeds:** 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 3 1 132 130 25 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 116 121 53 12 181 100 185 104 93 0 **speeds:** 20.9711 20.9711 17.806 17.806 17.806 17.806 17.3955 24.6165 16.4089 20.9711  
0 7 170 19 110 74 13 14 135 87 6 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 20 173 196 151 189 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 4 24 8 154 200 109 158 0 **speeds:** 20.9711 15.3304 15.3304 21.5287 21.5287 15.3304 20.9711 20.9711  
0 11 90 52 2 70 23 144 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_14-C, ExecTime: 382.016s, Cost: 2086.48, 27 Vehicles**

0 126 114 198 125 172 193 62 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 134 49 38 18 87 135 150 0 **speeds:** 20.9711 20.9711 19.7903 19.7903 19.7903 19.7903 20.9711 20.9711  
0 32 6 73 14 13 17 74 110 109 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 3 1 82 131 39 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 171 21 153 29 176 30 142 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 175 41 61 185 104 43 98 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 152 180 63 132 130 166 25 112 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 179 165 83 60 137 77 191 64 200 24 147 0 **speeds:** 20.9711 20.9711 22.2778 22.2778 22.2778 22.2778 22.2778 22.2778 22.2778 22.2778 20.9711  
0 169 72 71 15 58 148 0 **speeds:** 20.9711 20.9711 20.9711 15.4668 15.4668 20.9711 20.9711  
0 141 119 34 160 182 122 0 **speeds:** 20.9711 18.157 18.157 18.157 18.157 20.9711 20.9711  
0 144 23 199 167 88 143 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 187 103 57 36 56 37 174 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 50 108 9 42 48 54 51 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 31 16 93 105 102 161 75 116 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 90 159 178 164 2 59 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 101 113 5 45 123 80 106 120 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
0 81 12 65 22 186 68 69 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 183 195 197 168 158 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 127 33 76 111 163 133 157 149 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 155 78 140 188 40 128 28 136 118 151 0 **speeds:** 20.9711 19.6765 19.6765 19.6765 19.6765 19.6765 19.6765 20.9711 20.9711 20.9711 20.9711  
0 189 4 96 124 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 92 44 95 84 19 139 170 86 27 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711  
0 94 46 129 107 196 173 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 47 156 162 177 89 138 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 91 146 8 154 7 145 192 66 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 184 117 26 194 52 35 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 53 121 190 115 100 181 10 67 99 0 **speeds:** 20.9711 15.8296 15.8296 15.8296 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_14-A, ExecTime: 314.225s, Cost: 1918.64, 27 Vehicles**

0 134 28 49 18 38 87 6 150 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 155 118 136 169 140 188 40 128 78 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 124 96 146 189 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 90 164 2 59 178 159 27 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 79 50 62 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 196 194 11 32 52 101 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 91 20 8 154 24 4 147 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 81 99 21 12 65 115 68 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 94 183 46 117 129 107 26 184 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 85 35 195 70 197 168 158 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 120 199 106 125 172 198 141 114 193 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 31 112 25 166 39 111 163 133 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 126 97 174 37 56 36 108 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 54 119 34 160 42 187 127 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 3 1 152 75 161 116 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 9 57 122 76 51 33 103 149 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 48 182 156 162 177 47 157 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 113 72 148 58 71 15 80 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 16 130 132 131 63 98 171 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 69 53 175 190 61 185 102 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 73 135 14 13 17 74 110 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 82 180 93 43 105 104 138 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 66 192 145 95 44 173 92 151 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 179 165 142 30 137 176 60 29 83 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 144 23 167 123 45 5 88 143 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 121 41 100 186 22 10 181 153 67 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 86 170 139 19 84 191 77 64 200 7 109 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_15-B, ExecTime: 722.855s, Cost: 2446.65, 26 Vehicles**

0 13 27 58 114 9 187 32 48 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 170 2 19 198 113 126 0 **speeds:** 20.9711 16.7006 19.6924 15.3304 15.3304 20.9711 20.9711  
0 106 65 178 99 148 196 71 182 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 16.3158 15.3304 15.3304 20.9711 20.9711  
0 23 22 120 21 200 112 0 **speeds:** 20.9711 20.9711 20.9711 16.1954 20.9711 20.9711 20.9711  
0 184 74 76 169 122 110 107 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 49 140 164 40 195 176 109 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 16.5845 16.5845 16.5845 20.9711  
0 179 60 121 116 173 192 186 31 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 89 181 20 66 163 188 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 17.4527 20.9711 20.9711  
0 29 124 93 144 119 130 134 175 5 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.4726 20.9711 20.9711  
0 88 105 55 12 61 50 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 46 118 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 101 14 183 190 147 157 194 0 **speeds:** 20.9711 20.9711 20.9711 19.0967 19.0967 19.0967 20.9711 20.9711  
0 90 166 57 68 100 69 123 94 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 111 17 84 129 142 158 80 56 103 62 8 0 **speeds:** 20.9711 20.9711 18.105 18.105 18.105 18.105 18.105 18.105 18.105 20.9711 20.9711  
0 127 136 18 87 143 70 67 104 0 **speeds:** 20.9711 20.9711 20.9711 20.6523 20.6523 20.6523 20.6523 20.6523 20.9711  
0 51 191 97 146 137 131 0 **speeds:** 23.6797 24.5948 24.5948 24.5948 24.5948 24.5948 20.9711  
0 156 24 73 102 1 115 79 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 180 151 39 185 34 199 135 26 160 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 10 33 98 11 96 35 59 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
0 139 28 64 52 162 37 155 177 77 197 167 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 21.2301 21.2301 21.2301 20.9711 20.9711 20.9711  
0 138 3 44 165 193 4 145 149 117 172 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 22.805 22.805 15.3304 20.8517 20.9711 20.9711  
0 72 152 43 91 81 15 16 6 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 92 189 128 141 75 82 54 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 19.4911 20.9711  
0 150 38 171 25 161 174 133 78 0 **speeds:** 20.9711 17.854 17.854 17.854 15.3304 15.3304 15.3304 20.9711 20.9711  
0 132 7 168 154 47 53 95 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 45 108 63 36 41 159 83 30 125 153 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 21.7602 21.7602 21.7602 21.7602 21.7602 21.7602 20.9711

**Instance: UK200\_15-C, ExecTime: 581.227s, Cost: 2174.79, 26 Vehicles**

0 89 22 188 45 121 116 71 186 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 18.7473 18.7473 18.7473 20.9711 20.9711  
0 42 46 112 0 **speeds:** 20.9711 20.9711 17.4174 20.9711

0 131 166 139 151 51 39 190 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 22.5196 22.5196  
0 180 95 57 97 177 37 162 146 87 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 34 199 185 191 147 157 135 0 **speeds:** 20.9711 17.2255 17.2255 15.3304 15.3304 15.3304 15.3304 20.9711  
0 167 127 18 70 197 33 117 11 154 0 **speeds:** 20.9711 20.9711 20.9711 19.2583 19.2583 19.2583 19.2583 19.2583 19.2583 20.9711  
0 132 168 7 47 137 53 90 104 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 171 25 161 26 81 15 183 16 91 128 0 **speeds:** 20.9711 19.2982 19.2982 19.2982 19.2982 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 138 3 44 4 96 149 145 193 165 172 0 **speeds:** 20.9711 21.1626 21.1626 21.1626 21.1626 21.1626 20.6202 20.6202 20.9711 20.9711 20.9711  
0 10 94 69 123 100 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 13 31 63 36 99 153 41 66 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 136 98 77 155 52 64 68 143 67 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 86 111 17 40 61 164 195 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 115 84 103 158 80 56 62 8 179 0 **speeds:** 20.9711 22.7785 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 150 101 92 107 176 184 109 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 120 173 196 148 58 192 108 181 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 50 54 72 129 152 142 12 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 200 65 124 5 175 119 106 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 23.101 20.9711 20.9711  
0 24 105 14 75 43 141 189 55 160 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 76 169 122 78 74 156 0 **speeds:** 20.9711 20.9711 16.4793 16.4793 15.3304 15.3304 20.9711  
0 83 159 134 144 93 130 35 59 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 17.7543 20.9711 20.9711 20.9711  
0 30 48 187 9 114 32 178 125 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 198 19 170 2 113 60 182 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 23 126 85 79 1 102 140 73 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 16.6091 16.6091 16.6091 16.6091 16.6091 20.9711  
0 88 110 133 82 174 6 194 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 118 163 20 29 27 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711

**Instance: UK200\_15-A, ExecTime: 277.487s, Cost: 1991.1, 25 Vehicles**

0 23 126 182 2 170 113 60 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 120 173 186 192 63 41 29 27 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 79 179 8 198 19 62 56 103 84 111 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 112 46 200 21 66 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 108 153 99 48 187 9 114 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 61 72 12 158 80 129 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 171 6 14 128 75 141 91 26 161 25 194 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 7 154 197 98 33 117 11 132 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 166 28 151 100 39 185 191 190 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 34 51 199 147 157 135 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 106 134 93 144 119 130 35 59 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 104 87 146 18 70 136 127 47 167 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 67 94 143 68 57 123 69 139 95 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 160 189 152 142 43 15 183 81 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 97 64 52 162 37 177 155 77 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 131 180 90 53 10 137 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 172 138 3 44 149 96 145 4 165 193 168 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 31 36 58 148 196 71 116 121 45 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 156 74 101 150 109 42 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 88 110 76 54 105 92 50 184 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 78 133 174 82 169 122 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 86 195 17 40 164 107 176 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 118 22 188 181 163 13 89 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 65 83 159 175 5 124 178 125 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 24 140 73 1 115 102 49 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_16-B, ExecTime: 977.531s, Cost: 2363.45, 27 Vehicles**

0 129 18 126 183 72 118 71 122 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 163 143 8 181 86 32 12 200 111 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 18.3497 15.3304 15.3304 15.3304 20.9711 20.9711  
0 164 35 33 98 108 112 13 0 **speeds:** 20.9711 16.1762 16.1762 16.1762 15.3304 15.3304 15.3304 20.9711  
0 69 84 29 120 6 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
0 5 97 131 70 106 100 141 0 **speeds:** 20.9711 19.2518 19.2518 15.3304 15.3304 15.3304 20.9711 20.9711  
0 80 9 57 193 195 60 190 125 152 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711  
0 53 153 169 3 162 187 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 128 24 91 189 140 123 0 **speeds:** 20.9711 20.9711 20.9711 22.2593 20.2559 20.2559 20.9711  
0 177 124 56 113 61 94 82 175 0 **speeds:** 20.9711 23.8915 23.8915 19.867 19.867 20.9711 20.9711 20.9711 20.9711  
0 127 4 22 31 117 68 198 0 **speeds:** 20.9711 20.9711 15.3304 24.1294 15.3304 15.3304 20.9711 20.9711  
0 168 179 132 188 196 1 194 16 0 **speeds:** 20.9711 20.9711 17.3027 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 63 155 185 90 81 54 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711  
0 21 62 28 17 102 158 2 37 174 167 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 184 48 166 197 137 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 75 110 25 40 83 58 99 15 101 67 0 **speeds:** 20.9711 20.9711 19.9178 19.9178 19.9178 19.9178 19.9178 19.9178 19.9178 20.9711  
0 42 41 154 170 134 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 46 93 156 66 52 191 47 0 **speeds:** 20.9711 20.0446 20.0446 15.3304 16.4061 16.4061 16.4061 20.9711

0 172 10 151 59 96 23 146 0 **speeds:** 20.9711 24.52 24.52 20.9711 20.9711 20.9711 20.9711 20.9711  
0 55 135 95 121 89 45 50 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 107 20 103 19 144 36 149 39 0 **speeds:** 20.9711 20.9711 19.0932 19.0932 19.0932 15.3304 15.3304 20.9711 20.9711  
0 186 78 88 157 76 147 136 0 **speeds:** 20.9711 18.4344 18.4344 18.4344 18.4344 18.4344 20.9711 20.9711  
0 92 30 148 142 178 34 49 138 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.7837 20.7837 20.9711 20.9711  
0 104 7 119 109 73 130 87 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 176 171 173 74 14 65 105 44 0 **speeds:** 20.9711 20.9711 20.9711 21.8465 21.8465 21.8465 20.9711 20.9711 20.9711  
0 43 51 116 192 115 38 160 161 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 145 180 64 133 77 26 150 159 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 17.6923 17.6923 20.9711  
0 79 182 139 114 165 199 27 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_16-C, ExecTime: 518.229s, Cost: 2096.64, 27 Vehicles**

0 28 111 181 32 37 174 12 200 163 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 78 162 108 98 13 164 16 54 0 **speeds:** 20.9711 18.6221 18.6221 18.6221 18.6221 20.9711 20.9711 20.9711 20.9711  
0 92 182 140 7 87 118 133 180 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 42 177 175 197 198 137 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 75 39 36 40 110 149 144 19 103 124 0 **speeds:** 20.9711 20.9711 18.1324 18.1324 18.1324 18.1324 18.1324 20.0717 20.0717 20.9711 20.9711  
0 62 10 143 172 167 50 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 8 151 59 96 86 156 66 146 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 119 77 128 130 24 91 183 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 184 56 94 82 166 113 48 0 **speeds:** 20.9711 20.9711 20.877 20.877 18.3031 18.3031 18.3031 20.9711  
0 30 11 41 154 170 71 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 46 93 89 47 135 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 187 179 169 33 153 112 53 0 **speeds:** 20.9711 20.9711 20.9711 20.5331 20.5331 20.5331 20.9711 20.9711  
0 55 121 23 57 193 147 60 190 0 **speeds:** 20.9711 21.8648 21.8648 21.8648 21.8648 21.8648 20.9711 20.9711 20.9711  
0 178 199 5 165 138 27 161 159 0 **speeds:** 20.9711 20.5884 20.5884 20.5884 20.5884 20.5884 20.5884 20.5884 20.9711  
0 69 120 132 188 1 196 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 45 52 195 76 9 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 79 126 72 64 2 158 102 145 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 43 173 20 107 115 192 44 85 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 150 176 116 171 49 38 51 160 0 **speeds:** 20.9711 20.9711 20.9711 16.6001 16.6001 16.6001 16.6001 20.9711 20.9711  
0 80 63 185 155 95 125 191 152 0 **speeds:** 20.9711 21.7391 21.7391 21.7391 21.7391 21.7391 21.7391 21.7391 20.9711  
0 122 129 18 189 104 123 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 134 142 105 97 65 25 14 58 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
0 3 6 84 194 29 168 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 139 67 26 109 73 101 15 106 114 34 0 **speeds:** 20.9711 20.9711 19.179 19.179 19.179 19.179 20.9711 20.9711 20.9711 20.9711 20.9711  
0 141 100 99 70 131 74 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9312 20.9312 20.9711 20.9711 20.9711  
0 186 81 136 157 88 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 22 68 4 31 117 61 127 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 17.8207 20.9711

**Instance: UK200\_16-A, ExecTime: 378.816s, Cost: 1963.37, 27 Vehicles**

0 184 175 48 177 161 159 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 197 113 137 198 166 82 94 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 79 182 104 189 183 126 18 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 92 122 123 0 **speeds:** 20.9711 20.9711 20.9711 20.9711  
0 9 147 195 76 193 57 52 60 152 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 156 66 23 146 190 191 135 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 38 115 105 97 65 131 70 101 73 26 67 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 30 42 27 150 43 176 41 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 51 171 116 49 192 138 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 55 47 121 89 93 46 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 160 173 103 19 149 36 144 39 75 124 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 154 178 199 5 44 165 34 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 62 10 143 172 163 50 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 72 64 133 180 2 109 77 118 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 87 24 128 130 119 91 129 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 78 187 162 81 54 186 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 16 98 108 153 169 179 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 68 22 4 31 117 61 127 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 168 6 69 120 188 1 196 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 45 8 151 59 96 86 32 181 111 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 141 142 100 15 106 99 114 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 107 20 83 110 40 14 25 74 58 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 167 12 17 145 102 158 37 174 200 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 80 63 95 125 185 155 90 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 33 132 84 194 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 134 71 170 140 139 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 53 164 112 13 136 157 88 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_17-B, ExecTime: 1327.88s, Cost: 2498.07, 26 Vehicles**



0 11 43 74 15 41 39 67 101 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 150 105 25 149 1 47 0 **speeds:** 20.9711 22.8965 22.8965 22.8965 23.3046 23.3046 20.9711  
0 66 177 145 51 58 82 156 33 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 195 55 54 165 133 50 103 160 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711  
0 27 179 135 3 184 169 107 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.5677 15.5677 15.3304 20.9711  
0 163 188 122 139 14 190 115 183 81 137 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 134 86 140 196 7 5 49 154 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 40 197 99 6 143 75 4 125 0 **speeds:** 20.9711 22.7106 22.7106 22.7106 15.3304 15.3304 20.9711 20.9711 20.9711  
0 68 13 186 78 174 131 161 0 **speeds:** 20.9711 20.9711 21.7825 15.3304 21.9008 21.9008 21.9008 20.9711  
0 114 128 42 71 80 18 167 155 170 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 19.2597 19.2597 19.2597 19.2597 20.9711 20.9711  
0 180 64 159 35 181 199 22 176 21 0 **speeds:** 20.9711 20.7822 20.7822 20.7822 20.7822 15.3304 15.3304 15.3304 20.9711 20.9711  
0 109 44 138 136 102 172 72 193 121 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 17.9967 17.9967 20.9711 20.9711 20.9711 20.9711  
0 77 127 166 91 144 112 23 32 24 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 17.6277 17.6277 18.8657 15.3304 15.3304 20.9711  
0 116 106 76 36 45 118 97 30 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 124 65 69 110 113 182 2 0 **speeds:** 20.9711 20.9711 20.9711 18.3835 15.6047 15.6047 15.6047 20.9711  
0 95 31 60 10 168 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 46 96 108 147 59 93 130 178 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 16.3861 16.3861 20.9711 20.9711 20.9711  
0 164 92 16 104 29 52 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 73 187 63 94 123 61 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 19.1502 20.9711 20.9711  
0 151 84 192 111 129 98 8 171 0 **speeds:** 20.9711 18.2116 18.2116 15.3304 23.5523 23.5523 18.25 20.9711 20.9711  
0 57 83 89 90 79 194 28 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 191 38 153 70 17 20 26 12 158 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 117 200 162 146 120 142 157 0 **speeds:** 20.9711 20.9711 20.9711 15.9066 24.2678 24.2678 24.2678 20.9711  
0 189 9 100 87 141 56 185 0 **speeds:** 20.9711 22.5184 22.5184 22.5184 22.5184 15.3304 15.3304 20.9711  
0 48 19 88 62 119 34 37 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 152 132 126 175 53 198 173 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711

**Instance: UK200\_17-C, ExecTime: 341.529s, Cost: 2253.64, 26 Vehicles**

0 78 154 26 20 153 70 13 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 19.698 20.9711  
0 47 90 89 168 79 60 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
0 144 165 54 133 55 160 85 23 166 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 95 1 105 21 25 10 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 189 28 150 31 194 40 27 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 117 157 142 120 146 176 162 149 0 **speeds:** 20.9711 24.6438 24.6438 24.6438 24.6438 15.3304 17.9702 17.9702 20.9711  
0 45 36 118 110 119 69 86 0 **speeds:** 20.9711 15.3304 15.3304 15.8349 15.8349 15.8349 15.8349 20.9711

0 34 116 106 182 113 97 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711  
 0 52 16 92 114 170 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 171 98 72 175 172 102 109 152 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 32 179 3 135 74 43 15 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 164 18 104 71 42 29 83 57 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 137 81 37 183 101 115 67 30 39 163 134 0 **speeds:** 20.9711 20.9711 19.3928 19.3928 19.3928 19.3928 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 77 127 103 112 50 195 91 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
 0 24 122 139 14 96 19 48 76 2 188 0 **speeds:** 20.9711 19.6009 19.6009 19.6009 18.7945 18.7945 18.7945 20.9711 20.9711 20.9711 20.9711  
 0 178 62 88 130 93 46 41 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 64 4 143 125 199 22 181 180 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 200 185 141 132 126 56 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 107 169 184 108 147 59 190 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 9 198 8 193 87 100 161 0 **speeds:** 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 151 66 177 58 111 129 51 84 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 63 61 123 94 138 44 136 53 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 121 173 156 82 145 158 174 73 33 191 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 148 12 186 124 187 68 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 65 140 196 49 5 7 17 192 131 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 80 128 99 155 75 167 6 197 159 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711

**Instance: UK200\_17-A, ExecTime: 346.753s, Cost: 2107.05, 26 Vehicles**

0 115 59 14 96 19 48 184 108 147 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 47 31 89 90 57 40 27 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 164 99 42 128 71 80 104 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 83 197 155 167 6 75 143 4 64 180 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 168 35 159 125 199 22 181 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 174 187 13 186 154 124 38 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 139 107 169 3 135 74 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 2 76 36 45 118 110 119 69 65 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 170 52 18 16 92 114 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 185 141 56 126 132 142 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 194 25 21 105 176 146 120 162 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 24 101 183 67 46 122 15 43 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 68 12 192 94 138 44 136 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
 0 121 100 173 98 53 109 102 172 175 72 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 137 81 37 30 39 163 134 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 66 161 177 73 33 191 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 171 8 198 87 193 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 144 165 54 133 55 160 103 23 85 179 32 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 20 70 153 196 49 5 7 17 63 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 60 79 10 149 1 150 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 84 131 158 51 129 111 58 145 156 151 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 28 95 117 157 200 152 189 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 61 123 26 140 86 78 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 77 166 127 112 50 195 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 41 93 62 130 88 190 178 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 188 34 116 182 106 113 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_18-B, ExecTime: 1222.24s, Cost: 2330.2, 27 Vehicles**

0 71 25 16 3 60 42 122 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 24.6298 24.6298 20.9711  
0 132 143 33 88 117 173 47 26 118 34 163 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 17.7398 17.7398 17.7398 20.9711 20.9711 20.9711 20.9711 20.9711  
0 38 138 187 102 40 94 104 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 106 2 167 125 168 178 4 174 9 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 153 159 72 6 156 29 195 98 107 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 130 1 141 91 149 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711  
0 61 39 101 31 113 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 186 103 66 30 170 110 64 0 **speeds:** 20.9711 20.9711 15.3304 22.0607 22.0607 22.0607 15.3304 20.9711  
0 120 85 127 54 137 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 58 185 169 28 160 0 **speeds:** 20.9711 20.1975 15.3304 15.3304 15.3304 15.3304 20.9711  
0 67 52 90 139 15 44 192 80 0 **speeds:** 20.9711 15.3304 15.3304 22.4642 22.4642 22.4642 22.4642 24.5455 20.9711  
0 62 51 59 180 105 74 100 56 22 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 17.2004 20.9711 20.9711 20.9711  
0 69 171 179 24 145 199 78 92 0 **speeds:** 20.9711 20.9711 15.414 15.414 24.2657 15.3304 19.258 19.258 20.9711  
0 123 112 10 184 27 157 140 18 147 89 129 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 152 53 115 155 162 84 49 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 23.9557 23.9557 23.9557 20.9711  
0 76 70 150 126 188 79 93 99 0 **speeds:** 20.9711 15.3304 20.1825 20.1825 24.8194 24.8194 24.8194 24.8194 20.9711  
0 50 194 111 75 68 109 37 119 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 41 87 46 197 43 193 151 0 **speeds:** 21.3511 21.3511 21.3511 21.3511 19.3909 19.3909 19.3909 20.9711  
0 134 116 190 128 124 17 142 161 13 0 **speeds:** 20.9711 20.6225 20.6225 20.6225 20.6225 20.6225 20.6225 20.6225 20.9711 20.9711  
0 166 165 154 114 181 95 191 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711  
0 136 196 164 144 12 172 158 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 86 57 63 32 8 175 97 73 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 131 20 135 45 19 21 182 0 **speeds:** 20.9711 20.9711 18.4069 18.4069 18.4069 18.4069 21.5819 20.9711  
0 7 36 11 183 81 176 55 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 200 77 48 108 121 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 65 198 189 35 133 83 0 **speeds:** 20.9711 15.3304 16.3283 22.2783 22.2783 22.2783 20.9711  
0 146 177 148 23 96 82 0 **speeds:** 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_18-C, ExecTime: 401.89s, Cost: 2075.17, 27 Vehicles**

0 73 113 31 39 61 166 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 130 1 108 48 77 136 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 68 124 17 135 55 20 10 154 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 82 52 23 67 96 35 133 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 160 199 58 169 185 64 24 25 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 24.0326 24.0326 20.9711 20.9711  
0 200 49 158 193 12 66 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 104 137 153 38 138 65 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 121 84 151 164 144 30 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 115 155 126 162 46 150 87 172 103 186 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 196 188 197 43 53 79 0 **speeds:** 20.9711 20.9711 20.9711 19.76 20.9711 20.9711 20.9711  
0 62 54 47 117 51 173 78 92 26 0 **speeds:** 20.9711 20.9711 20.9711 23.7155 23.7155 23.7155 23.7155 20.9711 20.9711 20.9711  
0 118 56 187 180 189 198 74 59 102 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 194 148 159 90 192 44 109 146 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 147 18 140 157 139 72 15 105 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 134 116 123 101 86 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 14 75 107 6 183 27 81 29 156 95 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 163 143 33 88 40 100 94 34 0 **speeds:** 20.9711 20.9711 20.3289 20.3289 20.3289 20.3289 20.3289 20.3289 20.9711  
0 5 60 3 69 179 91 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 71 132 122 145 28 42 0 **speeds:** 20.9711 16.5006 16.5006 16.5006 16.5006 20.9711 20.9711  
0 120 127 22 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 99 152 93 63 32 97 125 57 0 **speeds:** 20.9711 15.3304 20.9826 20.9826 20.9826 20.9826 20.9826 20.9711 20.9711  
0 8 4 168 106 2 167 175 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 50 111 119 37 98 177 80 0 **speeds:** 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 141 16 171 76 41 110 170 149 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 131 89 182 45 19 21 184 165 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 190 129 181 161 114 174 178 9 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 13 112 128 36 11 176 195 142 191 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_18-A, ExecTime: 314.874s, Cost: 1930.82, 26 Vehicles**

0 116 31 39 101 113 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 12 144 193 164 196 121 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 152 79 53 188 43 197 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 200 99 151 84 49 186 130 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 112 128 75 68 36 107 191 165 14 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 160 92 78 173 51 117 47 26 62 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 10 20 89 182 45 19 174 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 158 172 87 150 46 162 155 126 115 110 70 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 179 24 64 169 185 58 199 28 145 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 153 56 187 198 189 74 180 105 133 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 77 149 69 171 3 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 5 1 25 108 141 16 91 48 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 120 127 22 104 34 137 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 35 67 15 72 192 44 109 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 119 37 148 90 23 159 52 96 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 71 118 94 40 59 102 100 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 103 30 66 170 41 76 136 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 132 122 42 143 33 88 54 163 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 65 38 138 82 177 80 194 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 166 13 190 146 111 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 134 61 131 154 114 181 129 73 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 86 57 175 125 97 32 63 93 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 6 27 139 157 140 18 21 184 147 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 124 29 176 156 81 183 98 50 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 123 95 161 142 55 135 195 11 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 7 8 167 2 106 168 4 178 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_19-B, ExecTime: 523.561s, Cost: 2109.22, 26 Vehicles**

0 54 5 131 186 147 196 38 21 0 **speeds:** 20.9711 20.9711 23.2982 23.2982 23.2982 15.3304 20.9711 20.9711 20.9711  
0 39 41 155 62 92 50 150 198 71 73 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.2248 20.2248 20.2248 20.2248 15.3304 20.9711 20.9711  
0 43 3 180 121 46 78 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 165 187 53 55 151 101 16 0 **speeds:** 20.9711 18.7525 18.7525 18.7525 22.4844 22.4844 22.4844 20.9711  
0 72 26 28 169 1 51 7 12 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711

0 181 125 49 160 84 47 112 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 75 175 23 14 123 199 65 58 106 52 0 **speeds:** 20.9711 24.3403 24.3403 23.3216 23.3216 15.3304 24.3858 24.3858 20.9711 20.9711 20.9711  
0 156 146 122 144 191 200 0 **speeds:** 20.9711 20.9711 18.2846 18.2846 18.2846 20.6205 20.9711  
0 183 182 171 189 117 163 197 176 0 **speeds:** 20.9711 23.6253 23.6253 23.6253 23.6253 23.6253 23.6253 23.6253 20.9711  
0 94 115 10 57 143 137 83 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 61 60 132 105 136 90 111 88 97 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 21.2106 20.9711 20.9711  
0 18 108 31 8 127 95 110 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 120 13 99 129 158 86 168 48 148 36 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 15.3304 16.434 16.434 15.3304 20.9711  
0 96 11 40 2 81 87 32 0 **speeds:** 20.9711 15.6449 15.6449 15.6449 20.9711 20.9711 20.9711 20.9711  
0 17 134 141 63 173 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 98 167 107 29 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 190 56 128 119 22 20 161 116 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 44 33 103 154 194 124 145 85 0 **speeds:** 20.9711 20.9711 18.9496 18.9496 18.9496 18.9496 18.9496 20.9711 20.9711  
0 69 126 100 79 42 179 0 **speeds:** 20.9711 15.3304 19.7227 19.7227 19.7227 19.7227 20.9711  
0 93 77 135 164 66 70 30 24 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 19.2446 19.2446 20.9711 20.9711 20.9711  
0 193 153 184 152 192 67 0 **speeds:** 20.9711 15.3304 15.3304 20.8525 15.3304 18.5188 20.9711  
0 170 35 149 6 177 89 174 9 0 **speeds:** 20.9711 20.9711 20.9711 23.6472 23.6472 23.5831 23.5831 20.9711 20.9711  
0 138 133 195 37 15 59 130 4 178 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711  
0 68 34 142 159 19 172 104 109 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 15.3304 20.9711  
0 102 64 114 27 185 140 162 25 45 113 76 0 **speeds:** 20.9711 22.4871 22.4871 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 91 74 157 80 118 166 139 188 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711

**Instance: UK200\_19-C, ExecTime: 542.194s, Cost: 1910.07, 25 Vehicles**

0 128 119 1 169 181 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 161 56 20 22 26 160 28 184 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 135 150 198 71 149 50 92 6 187 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 24 151 66 61 70 96 32 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711  
0 14 123 65 162 74 140 91 45 0 **speeds:** 20.9711 20.2096 20.2096 20.2096 20.2096 20.2096 20.2096 20.2096 20.9711  
0 8 85 131 154 186 145 124 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 84 185 157 64 114 27 80 118 166 102 190 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.5213 20.5213 20.5213 20.5213 20.9711 20.9711 20.9711  
0 39 177 35 89 199 25 113 139 106 23 0 **speeds:** 20.9711 15.3304 15.3304 17.9514 17.9514 17.9514 17.9514 20.7537 20.9711 20.9711 20.9711  
0 43 179 100 3 126 69 183 0 **speeds:** 20.9711 20.9711 16.3886 16.3886 16.3886 16.3886 16.3886 20.9711  
0 101 16 133 52 173 144 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 21 88 90 196 147 111 42 110 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 138 77 76 19 75 142 112 172 93 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 24.4837 20.9711 20.9711 20.9711

0 180 121 136 105 46 44 82 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 9 178 195 15 59 58 37 175 159 34 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 87 81 60 132 78 2 40 11 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 97 54 33 103 194 163 38 5 79 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 115 57 86 48 137 143 94 12 0 **speeds:** 20.9711 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 55 30 41 62 155 164 53 165 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 170 73 188 174 130 4 63 141 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 182 36 176 117 95 189 171 18 0 **speeds:** 20.9711 20.9711 15.3304 21.1678 21.1678 21.1678 21.1678 20.9711 20.9711  
0 192 152 7 129 158 168 10 99 51 0 **speeds:** 20.9711 19.7451 19.7451 19.7451 19.7451 15.6309 15.6309 15.6309 15.6309 20.9711  
0 146 120 13 83 197 31 108 127 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711  
0 98 167 107 109 68 191 134 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 116 72 49 125 104 17 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 29 193 122 153 200 67 156 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200\_19-A, ExecTime: 339.436s, Cost: 1742.83, 25 Vehicles**

0 172 112 102 166 157 74 140 91 162 65 23 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 13 12 94 143 115 48 137 83 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 167 184 116 161 56 152 192 120 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 76 19 75 159 175 4 130 178 9 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 153 107 109 68 191 144 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 97 33 103 38 85 131 186 154 21 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 49 160 128 119 22 51 20 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 183 69 179 126 43 11 96 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 185 118 64 80 114 27 1 26 72 190 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 29 156 67 200 98 122 146 193 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 34 142 139 106 58 59 15 37 195 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 17 134 141 63 173 52 133 138 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 24 101 16 165 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 182 18 100 110 54 79 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 14 123 113 45 25 199 89 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 36 117 31 8 194 163 145 124 197 148 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 104 84 125 28 169 181 47 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 176 86 168 57 10 158 99 129 7 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 187 150 198 71 149 50 92 41 62 155 6 164 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 82 44 42 196 147 88 5 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

0 87 40 2 78 132 60 81 70 61 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 180 46 111 90 105 136 121 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 77 135 39 177 188 174 73 170 93 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 189 108 127 95 171 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 32 151 66 55 30 53 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711

**Instance: UK200.20-B, ExecTime: 1873.27s, Cost: 2476.79, 27 Vehicles**

0 88 191 74 190 78 51 98 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 57 141 137 166 94 133 187 5 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 75 194 125 164 13 127 29 0 **speeds:** 20.9711 16.4158 16.4158 16.4158 15.3304 15.3304 20.9711 20.9711  
0 170 11 32 143 200 48 0 **speeds:** 20.9711 21.984 21.984 21.984 21.984 20.9711 20.9711  
0 184 10 92 22 182 34 66 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 12 116 142 89 58 1 16 178 42 0 **speeds:** 20.9711 20.9711 20.9711 17.6019 17.6019 15.3304 15.3304 15.3304 20.9711 20.9711  
0 33 108 9 40 177 0 **speeds:** 20.9711 20.9711 20.9711 22.1471 22.1471 20.9711  
0 119 3 18 148 147 188 192 0 **speeds:** 20.9711 20.0123 15.3304 22.4937 20.9711 20.9711 20.9711 20.9711  
0 101 83 2 67 152 73 181 95 100 0 **speeds:** 20.9711 20.9711 15.3304 21.3618 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711  
0 61 50 62 70 193 27 134 113 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 15.6746 15.6746 20.9711 20.9711 20.9711  
0 8 171 124 103 176 195 93 25 135 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711 20.9711  
0 23 72 55 128 14 85 105 114 56 0 **speeds:** 20.9711 23.1876 23.1876 15.6681 15.6681 15.6681 15.6681 15.6681 20.9711 20.9711  
0 45 44 172 132 41 49 37 149 0 **speeds:** 21.0313 21.0313 21.0313 16.1324 16.1324 16.1324 16.1324 16.1324 20.9711  
0 175 110 183 36 154 99 168 138 0 **speeds:** 20.9711 21.4379 21.4379 21.4379 21.4379 18.3107 18.3107 18.3107 20.9711  
0 82 163 28 104 24 153 31 140 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 19.6821 19.6821 20.9711 20.9711  
0 35 97 145 173 80 121 107 26 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 16.083 16.083 20.9711 20.9711 20.9711  
0 96 174 150 151 162 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.5681 20.9711  
0 165 65 136 117 86 179 115 109 0 **speeds:** 20.9711 21.3441 21.3441 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 7 158 20 69 87 90 126 157 63 161 0 **speeds:** 20.9711 20.9711 15.3304 15.3304 15.3304 15.3661 17.7549 17.7549 17.7549 20.9711 20.9711  
0 199 180 159 81 185 123 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 146 167 129 76 197 84 54 0 **speeds:** 20.9711 18.7553 18.7553 18.7553 20.9711 20.9711 20.9711 20.9711  
0 6 77 160 111 53 68 79 38 0 **speeds:** 20.9711 20.7117 20.7117 20.7117 20.7117 20.9711 20.9711 20.9711 20.9711  
0 102 71 156 21 131 60 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 43 196 169 15 64 47 144 0 **speeds:** 20.9711 15.3304 15.3304 19.5576 19.5576 20.9711 20.9711 20.9711  
0 91 155 59 106 186 30 0 **speeds:** 20.9711 19.444 19.444 19.444 19.444 20.9711 20.9711  
0 112 139 122 39 189 46 4 0 **speeds:** 20.9711 20.9711 22.9835 22.9835 22.9835 22.9835 22.9835 20.9711  
0 118 19 198 17 130 52 120 0 **speeds:** 20.9711 20.0956 20.0956 20.0956 17.1773 20.9711 20.9711 20.9711



**Instance: UK200\_20-C, ExecTime: 543.321s, Cost: 2201.07, 27 Vehicles**

0 103 93 195 40 9 108 124 176 0 **speeds:** 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 35 167 146 61 197 4 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 72 133 27 134 187 5 3 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 185 25 33 171 8 150 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 15.3304 20.9711 20.9711  
0 177 188 147 148 192 18 135 0 **speeds:** 20.9711 22.1179 22.1179 22.1179 22.1179 22.1179 20.9711 20.9711  
0 12 34 22 111 160 53 68 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 199 19 180 130 165 91 118 0 **speeds:** 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 156 21 131 60 79 10 120 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 119 0 **speeds:** 20.9711 20.9711  
0 43 66 38 182 64 15 52 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 36 110 117 183 157 126 90 65 98 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 67 152 83 2 101 31 153 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 26 113 112 121 80 145 97 84 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 198 63 75 154 194 7 125 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 127 136 158 51 69 20 1 77 99 30 144 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 15.6703 15.6703 15.6703 15.6703 15.6703 24.3598 24.3598 20.9711  
0 107 70 193 50 62 94 189 39 166 141 85 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 22.8087 22.8087 22.8087 22.8087 22.8087 20.9711 20.9711  
0 161 82 24 140 73 181 104 28 29 149 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 138 196 169 47 42 92 186 106 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 48 37 78 191 109 132 74 190 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711 20.9711  
0 102 59 6 71 184 81 0 **speeds:** 20.9711 20.9711 20.9711 15.9923 15.9923 15.9923 20.9711  
0 95 179 172 88 44 100 86 175 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 15.3304 15.3304 20.9711 20.9711  
0 142 89 178 16 58 87 168 116 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 162 159 155 151 123 174 96 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 163 45 115 41 49 164 13 0 **speeds:** 20.9711 20.9711 20.9711 15.3304 20.9711 20.9711 20.9711 20.9711  
0 57 56 14 122 55 139 54 23 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 173 128 137 46 105 114 76 129 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 143 200 32 11 170 17 0 **speeds:** 20.9711 15.3304 15.3304 15.3304 20.9711 20.9711 20.9711

**Instance: UK200\_20-A, ExecTime: 339.165s, Cost: 2053.62, 27 Vehicles**

0 118 180 19 199 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711  
0 168 99 87 69 58 20 1 16 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 76 56 128 122 141 85 14 173 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 36 117 183 157 126 78 191 190 175 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 96 185 174 123 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711

0 37 115 88 172 109 132 74 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 55 70 133 27 134 187 5 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 43 102 59 10 186 106 138 144 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 11 143 48 164 127 13 149 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 116 142 42 178 89 77 160 92 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 163 29 104 95 181 73 83 152 114 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 150 8 156 171 93 195 40 176 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 154 194 7 125 32 170 63 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 23 97 107 72 139 80 121 145 197 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 159 155 184 151 81 162 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
0 167 146 4 57 129 82 35 0 **speeds:** 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711 20.9711  
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