

### Reference

- [1] P. G. Furth and N. H. Wilson, "Setting frequencies on bus routes: Theory and practice," *Transp. Res. Rec.*, vol. 818, no. 1981, pp. 1–7, 1981.
- [2] S. Chandurkar, S. Mugade, S. Sinha, M. Misal, and P. Borekar, "Implementation of real time bus monitoring and passenger information system," *Int. J. Sci. Res. Publ.*, vol. 3, no. 5, pp. 1–5, 2013.
- [3] W.-H. Lin and J. Zeng, "Experimental Study on Real-Time Bus Arrival Time Prediction with GPS Data," *Transp. Res. Rec. J. Transportation Res. Board*, no. National Research Council, Washington, D.C., p. 1019, 1999.
- [4] W. B. Kidwell, "Predicting Transit Vehicle Arrival Times," *Geogr. Lab. Bridgew. State Coll. Bridgew. Mass*, 2001.
- [5] A. El-Geneidy, J. Strathman, T. Kimpel, and D. Crout, "Effects of Bus Stop Consolidation on Passenger Activity and Transit Operations," *Transp. Res. Rec. J. Transp. Res. Board*, vol. 1971, pp. 32–41, Jan. 2006.
- [6] P. Shrivastava and M. O'Mahony, "Modeling an Integrated Public Transportation System - a case study in Dublin, Ireland," no. 41, p. 19, 2009.
- [7] D. Meignan, O. Simonin, and A. Koukam, "Simulation and evaluation of urban bus-networks using a multiagent approach," *Simul. Model. Pract. Theory*, vol. 15, no. 6, pp. 659–671, Jul. 2007.
- [8] M. Petrelli, "A transit network design model for urban areas," *Urban Transp. X*, p. 10, 2004.
- [9] M. Owais, G. Moussa, Y. Abbas, and M. El-Shabrawy, "Simple and Effective Solution Methodology for Transit Network Design Problem," *Int. J. Comput. Appl.*, vol. 89, no. 14, pp. 32–40, Mar. 2014.

## *Appendix A – Route Details*

Details of the bus stops with their longitudes and latitudes;

<b>#</b>	<b>Name</b>	<b>latitudes</b>	<b>longitudes</b>
1	Pettah	6.93321	79.8554
2	Fort Railway Station	6.93408	79.8502
3	Lotus Road	6.93398	79.847
4	Galle Face Green	6.92196	79.8461
5	Kollupitiya Junction	6.91116	79.8497
6	McDonalds Kollupitiya	6.90317	79.8523
7	Bambalapitiya Junction	6.89369	79.8555
8	Holy Family Convent Bambalapitiya	6.88781	79.8573
9	Savoy Cinema Wellawatte	6.88027	79.8596
10	Wellawatte Junction	6.87534	79.861
11	Lake House	6.93261	79.848
12	Gamini Hall Junction	6.92653	79.8618
13	Darley Road/Excel World	6.92166	79.8622
14	Gangarama	6.91811	79.8543
15	Bishop\'s College	6.91459	79.8559
16	Mahanama College	6.90568	79.8536
17	British Council	6.89983	79.8555
18	Regal Cinema	6.93128	79.847
19	Slave Island	6.9233	79.8516
20	Town Hall	6.9168	79.8634
21	Public Library	6.91287	79.8579
22	St. Bridget\'s Convent	6.90965	79.8637
23	Race Course Grounds	6.90618	79.8637
24	Campus (Arts Faculty)	6.90258	79.8622
25	Campus (near Wycherley)	6.90002	79.8595
26	Thurstan College	6.90502	79.8583
27	Glass House	6.91094	79.8583
28	Thunmulla	6.89619	79.8603
29	Police Park	6.89288	79.862
30	Thimbirigasyaya	6.88998	79.8638
31	BRC Grounds	6.88753	79.8645
32	Redimola Junction	6.88363	79.8683
33	Maya Ave.	6.88077	79.8704
34	Kirulapone Junction	6.87858	79.8746
35	Kirulapone South	6.87772	79.8786

36	Balapokuna Road	6.87384	79.8819
37	Anula Vidyalaya	6.87195	79.8843
38	Nugegoda	6.86932	79.8896
39	Seventh Mile Post	6.86686	79.8933
40	Gansabha Junction	6.86511	79.8966
41	Delkanda	6.86282	79.9018
42	Wijerama	6.85764	79.9086
43	Navinna	6.8551	79.9134
44	Arpico M\gama	6.85243	79.917
45	Wattegedara Junction	6.85123	79.9211
46	Maharagama	6.84608	79.9281
47	Sugathadasa Stadium	6.94666	79.8691
48	Armour Street	6.94343	79.8643
49	Ananda College	6.9245	79.868
50	Maradana	6.92824	79.8646
51	Castle Street Hospital	6.91097	79.8852
52	Devi Balika Vidyalaya	6.91102	79.8821
53	Alwis Place Kollupitiya	6.91264	79.8539
54	Arts Fac. Horton Place	6.91155	79.8687
55	Green Path	6.91173	79.862
56	Stratford Avenue	6.87761	79.873
57	Kirulapone Ave.	6.88269	79.8756
58	Suwisuddharamaya	6.88013	79.8696
59	Sapphire Halt	6.8767	79.8664
60	Pamankada	6.87698	79.8697
61	Vijaya Kumaratunge Mw.	6.88553	79.8767
62	Apollo Hospital	6.88922	79.8769
63	Narahenpita Junction	6.89189	79.877
64	Ibbanwela Junction	6.91879	79.8613
65	Ward Place	6.91721	79.8662
66	Borella	6.91474	79.8776
67	Horton Place - Baseline Junction	6.91126	79.8775
68	Borella Cemetery Junction	6.90859	79.8773
69	Sarana Road	6.90558	79.8735
70	Maitland Place	6.9029	79.8705
71	Delmon Hospital	6.87071	79.8621
72	Ramakrishna Road	6.8659	79.863
73	William Grinding Mills	6.86251	79.8638
74	Dehiwala Municipal Council	6.86103	79.8641
75	St. Mary's Church Dehiwala	6.85918	79.8645
76	Holy Family Convent Dehiwala	6.85717	79.865
77	Dehiwala Junction	6.85082	79.866

78	Dehiwala Cemetery	6.84493	79.8662
79	Hotel Road Mt. Lavinia	6.84197	79.8669
80	S. Thomas\' College Mt. Lavinia	6.83775	79.8674
81	Mount Lavinia Junction	6.83296	79.8673
82	Maliban Junction	6.81943	79.8737
83	Belekkade Junc. Rathmalana	6.81474	79.8788
84	Rathmalana Airport	6.81244	79.8811
85	Soysapura	6.80462	79.8867
86	Katubedda Junction	6.79733	79.8885
87	Rawatawatta	6.78803	79.8851
88	Moratuwa	6.77449	79.8824
89	Panadura	6.71138	79.9076
90	Angulana	6.79819	79.873
91	Dutugemunu Street	6.87059	79.8774
92	Kohuwala	6.86707	79.8846
93	Woodlands	6.8623	79.8884
94	Pepiliyana	6.85666	79.8906
95	Raththanapitiya	6.84834	79.8976
96	Boralesgamuwa	6.84124	79.9016
97	Werahera	6.82972	79.9114
98	Bokundara	6.81862	79.9177
99	Piliyandala	6.80122	79.9233
100	Kesbewa	6.79552	79.9408
101	Polgasovita	6.78698	79.9649
102	Kahathuduwa	6.78346	79.9834
103	Horana	6.71662	80.0638
104	Panagoda	6.84827	80.0188
105	Godagama	6.85148	80.0316
106	Migoda	6.84423	80.0467
107	Padukka	6.84146	80.0908
108	Handapangoda	6.79234	80.1426
109	Ingiriya	6.74399	80.1766
110	Teachers\' Training College	6.84471	79.9327
111	Pannipitiya	6.8462	79.9497
112	Kottawa	6.84167	79.964
113	Makumbura	6.83862	79.98
114	Homagama	6.84113	80.002
115	Kottawa Railway Station	6.84401	79.9682
116	Rukmalgama	6.85692	79.9859
117	Walgama Junc. Athurugiriya	6.86495	79.9958
118	Athurugiriya Junction	6.87745	79.9895
119	Pinhena Junction	6.83278	79.9647

120	Mattegoda	6.81158	79.9751
121	Open University Nawala	6.88302	79.8868
122	Nawala Junction	6.88703	79.8872
123	Koswatta Nawala	6.90003	79.894
124	Bellanthota Junction	6.84831	79.8854
125	Nandimala	6.84986	79.8794
126	Karagampitiya	6.85025	79.872
127	Kalubowila Hospital	6.86647	79.8773
128	Nugegoda Supermarket	6.87347	79.8914
129	Pita Kotte	6.8839	79.9019
130	Impala Cinema Rajagiriya	6.91097	79.8907
131	Rajagiriya Junction	6.91012	79.8944
132	Ethul Kotte Junction	6.90551	79.9052
133	Sethsiripaya	6.90244	79.9143
134	Battaramulla	6.90209	79.9181
135	Thalangama	6.90597	79.9262
136	Thalahena	6.90801	79.945
137	Malabe	6.90408	79.9544
138	Pittugala	6.90869	79.9693
139	SLIIT Malabe	6.91471	79.9722
140	Kaduwela	6.9357	79.9842
141	Thalawathugoda	6.87628	79.9353
142	Pelawatta/Isurupaya	6.8906	79.9289
143	Peliyagoda Junction	6.95576	79.8831
144	Nawaloka Junction	6.96068	79.8808
145	Wattala	6.98125	79.888
146	Handala	6.99069	79.8931
147	Welisara	7.02178	79.8996
148	Kandana	7.04783	79.897
149	Kapuwatta	7.06401	79.8932
150	Ja-Ela	7.07824	79.8905
151	Katunayake Airport	7.16564	79.8841