

Not the Bangkok Blue Line project's official data,
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educational purposes only.

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line
by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
10.251	Hua Lam Phong				0.00								
10.261		163.47	0	1.30	18.33	3.93	0.00	3.93	33.218	-35.214	0.834	764.835	0.000
10.270		163.47	0	1.30	25.00	1.43	0.00	5.36	32.903	-35.529	0.616	1552.536	0.000
10.280		163.47	0	0.00	25.00	1.44	0.00	6.80	-1.427	-1.427	0.084	209.822	0.000
10.290		163.47	0	0.00	25.00	1.44	0.00	8.24	-1.427	-1.427	0.084	209.822	0.000
10.300		163.47	0	0.00	25.00	1.44	0.00	9.68	-1.427	-1.427	0.084	209.822	0.000
10.310		163.47	0	0.00	25.00	1.44	0.00	11.12	-1.427	-1.427	0.084	209.822	0.000
10.320		163.47	0	0.00	25.00	1.44	0.00	12.56	-1.427	-1.427	0.084	209.822	0.000
10.336	(Start of Scissors)	163.47	0	0.00	25.00	2.30	0.00	14.86	-1.427	-1.427	0.134	209.822	0.000
10.346		163.47	0	0.00	25.00	1.44	0.00	16.30	-1.427	-1.427	0.084	209.822	0.000
10.356		163.47	0	0.00	25.00	1.44	0.00	17.74	-1.427	-1.427	0.084	209.822	0.000
10.366	(End of Scissors)	163.47	0	0.00	25.00	1.44	0.00	19.18	-1.427	-1.427	0.084	209.822	0.000
10.376		163.47	0	0.00	25.00	1.44	0.00	20.62	-1.427	-1.427	0.084	209.822	0.000
10.386		163.47	0	0.00	25.00	1.44	0.00	22.06	-1.427	-1.427	0.084	209.822	0.000
10.396		163.47	0	0.00	25.00	1.44	0.00	23.50	-1.427	-1.427	0.084	209.822	0.000
10.406		163.47	0	0.00	25.00	1.44	0.00	24.94	-1.427	-1.427	0.084	209.822	0.000
10.416		163.47	0	0.00	25.00	1.44	0.00	26.38	-1.427	-1.427	0.084	209.822	0.000
10.426		163.47	0	0.00	25.00	1.44	0.00	27.82	-1.427	-1.427	0.084	209.822	0.000
10.430		163.47	0	0.00	25.00	0.58	0.00	28.40	-1.427	-1.427	0.034	209.822	0.000
10.435		163.47	0	1.30	28.40	0.73	0.00	29.12	32.726	-35.706	0.379	1871.742	0.000
10.450		163.47	-1.5	1.30	36.20	1.67	0.00	30.80	28.611	-32.054	0.929	2000.849	0.000
10.460		163.47	-1.5	1.11	39.97	0.95	0.00	31.74	23.331	-27.327	0.521	1984.801	0.000
10.470		163.47	-1.5	1.11	43.41	0.86	0.00	32.61	23.140	-27.518	0.518	2159.067	0.000
10.480		163.47	-1.5	0.97	46.21	0.80	0.00	33.41	19.258	-23.991	0.448	2009.200	0.000
10.490		163.47	-1.5	0.86	48.55	0.76	0.00	34.17	16.211	-21.254	0.394	1868.679	0.000
10.500		163.47	-1.5	0.86	50.79	0.72	0.00	34.89	16.067	-21.398	0.393	1953.801	0.000
10.510		163.47	-1.5	0.77	52.71	0.70	0.00	35.59	13.629	-19.233	0.351	1815.310	0.000
10.520		163.47	-1.5	0.77	54.57	0.67	0.00	36.26	13.501	-19.361	0.350	1878.608	0.000
10.530		163.47	-1.5	0.77	56.37	0.65	0.00	36.91	13.373	-19.489	0.350	1940.119	0.000
10.541		163.47	-1.5	0.70	58.11	0.69	0.00	37.60	11.364	-17.734	0.347	1804.203	0.000
10.550		163.47	-0.5	0.70	59.50	0.55	0.00	38.15	13.837	-20.438	0.326	2128.592	0.000
10.560		163.47	-0.5	0.70	61.00	0.60	0.00	38.75	13.728	-20.547	0.362	2179.841	0.000
10.570		163.47	-0.5	0.64	62.34	0.58	0.00	39.33	12.031	-19.069	0.333	2052.752	0.000
10.580		163.47	-0.5	0.64	63.65	0.57	0.00	39.90	11.927	-19.174	0.333	2096.498	0.000
10.590		163.47	-0.5	0.64	64.94	0.56	0.00	40.46	11.823	-19.278	0.333	2139.559	0.000
10.600		163.47	-0.5	0.64	66.20	0.55	0.00	41.01	11.719	-19.382	0.333	2181.980	0.000
10.610		163.47	-0.5	0.59	67.34	0.54	0.00	41.55	10.278	-18.141	0.308	2059.515	0.000
10.620		163.47	-0.5	0.59	68.46	0.53	0.00	42.08	10.183	-18.237	0.308	2094.775	0.000
10.630		163.47	-0.5	0.59	69.57	0.52	0.00	42.60	10.087	-18.332	0.309	2129.629	0.000
10.640		163.47	-0.5	0.59	70.65	0.51	0.00	43.12	9.992	-18.427	0.309	2164.099	0.000
10.650		163.47	-0.5	0.54	71.64	0.51	0.00	43.62	8.757	-17.375	0.288	2049.114	0.000
10.660		163.47	-0.5	0.54	72.62	0.50	0.00	44.12	8.669	-17.463	0.288	2078.360	0.000
10.670		163.47	-0.5	0.54	73.59	0.49	0.00	44.62	8.581	-17.550	0.288	2107.351	0.000
10.683		163.47	-0.5	0.54	74.83	0.63	0.00	45.25	8.480	-17.652	0.377	2140.471	0.000
10.690		163.47	-0.5	0.54	75.48	0.33	0.00	45.58	8.392	-17.739	0.200	2169.005	0.000
10.700		163.47	-0.5	0.48	76.30	0.47	0.00	46.06	6.589	-16.073	0.257	1952.044	0.000
10.710		163.47	-0.5	0.48	77.10	0.47	0.00	46.53	6.512	-16.150	0.257	1974.190	0.000
10.720		163.47	-0.5	0.48	77.90	0.46	0.00	46.99	6.435	-16.227	0.258	1996.205	0.000
10.730		163.47	-0.5	0.48	78.70	0.46	0.00	47.45	6.358	-16.304	0.258	2018.093	0.000
10.747		163.47	-0.5	0.48	80.00	0.75	0.00	48.20	6.256	-16.406	0.429	2046.990	0.000
10.750		163.47	-0.5	0.00	79.99	0.15	0.00	48.36	-7.339	-4.750	0.008	190.000	0.000
10.760		163.47	-0.5	0.00	79.97	0.45	0.00	48.81	-7.338	-4.749	0.024	190.000	0.000
10.770		163.47	-0.5	0.00	79.96	0.45	0.00	49.26	-7.335	-4.746	0.024	190.000	0.000
10.780		163.47	-0.5	0.00	79.94	0.45	0.00	49.71	-7.331	-4.742	0.024	190.000	0.000
10.790		163.47	-0.5	0.00	79.92	0.45	0.00	50.16	-7.328	-4.739	0.024	190.000	0.000
10.800		163.47	-0.5	0.00	79.90	0.45	0.00	50.61	-7.325	-4.736	0.024	190.000	0.000
10.810		163.47	-0.5	0.00	79.89	0.45	0.00	51.06	-7.321	-4.732	0.024	190.000	0.000
10.820		163.47	-0.5	0.00	79.87	0.45	0.00	51.51	-7.318	-4.729	0.024	190.000	0.000
10.830		163.47	-0.5	0.00	79.85	0.45	0.00	51.96	-7.315	-4.726	0.024	190.000	0.000
10.840		163.47	-0.5	0.00	79.84	0.45	0.00	52.41	-7.311	-4.722	0.024	190.000	0.000
10.850		163.47	-0.5	0.00	79.82	0.45	0.00	52.86	-7.308	-4.719	0.024	190.000	0.000
10.860		163.47	-0.5	0.00	79.80	0.45	0.00	53.31	-7.305	-4.716	0.024	190.000	0.000
10.870		163.47	-0.5	0.00	79.79	0.45	0.00	53.76	-7.301	-4.712	0.024	190.000	0.000
10.880		163.47	-0.5	0.00	79.77	0.45	0.00	54.21	-7.298	-4.709	0.024	190.000	0.000
10.890		163.47	-0.5	0.00	79.75	0.45	0.00	54.67	-7.295	-4.706	0.024	190.000	0.000
10.900		163.47	-0.5	0.00	79.74	0.45	0.00	55.12	-7.291	-4.703	0.024	190.000	0.000
10.910		163.47	-0.5	0.00	79.72	0.45	0.00	55.57	-7.288	-4.699	0.024	190.000	0.000
10.920		163.47	-0.5	0.00	79.70	0.45	0.00	56.02	-7.285	-4.696	0.024	190.000	0.000
10.930		163.47	-0.5	0.00	79.69	0.45	0.00	56.47	-7.282	-4.693	0.024	190.000	0.000
10.940		163.47	-0.5	0.00	79.67	0.45	0.00	56.92	-7.278	-4.690	0.024	190.000	0.000
10.950		163.47	-0.5	0.00	79.65	0.45	0.00	57.38	-7.275	-4.686	0.024	190.000	0.000
10.964		163.47	-0.5	0.00	79.63	0.63	0.00	58.01	-7.272	-4.683	0.033	190.000	0.000
10.974		163.47	0.5	0.00	79.46	0.45	0.00	58.46	-13.144	-15.733	0.024	190.000	0.000
10.984		163.47	0.5	0.00	79.28	0.45	0.00	58.91	-13.109	-15.698	0.024	190.000	0.000
10.994		163.47	0.5	0.00	79.10	0.45	0.00	59.37	-13.075	-15.664	0.024	190.000	0.000
11.004		163.47	0.5	0.00	78.93	0.46	0.00	59.82	-13.040	-15.629	0.024	190.000	0.000
11.014		163.47	0.5	0.00	78.75	0.46	0.00	60.28	-13.006	-15.595	0.024	190.000	0.000
11.024		163.47	0.5	0.00	78.57	0.46	0.						

Simulation(Coasting)

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Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
11.034		163.47	0.5	0.00	78.40	0.46	0.00	61.20	-12.937	-15.526	0.024	190.000	0.000
11.044		163.47	0.5	0.00	78.22	0.46	0.00	61.66	-12.903	-15.492	0.024	190.000	0.000
11.054		163.47	0.5	0.00	78.04	0.46	0.00	62.12	-12.868	-15.457	0.024	190.000	0.000
11.064		163.47	0.5	0.00	77.87	0.46	0.00	62.58	-12.834	-15.423	0.024	190.000	0.000
11.074		163.47	0.5	0.00	77.69	0.46	0.00	63.04	-12.800	-15.389	0.024	190.000	0.000
11.084		163.47	0.5	0.00	77.51	0.46	0.00	63.51	-12.766	-15.355	0.024	190.000	0.000
11.094		163.47	0.5	0.00	77.34	0.46	0.00	63.97	-12.732	-15.321	0.025	190.000	0.000
11.104		163.47	0.5	0.00	77.16	0.47	0.00	64.44	-12.698	-15.287	0.025	190.000	0.000
11.114		163.47	0.5	0.00	76.98	0.47	0.00	64.91	-12.664	-15.253	0.025	190.000	0.000
11.124		163.47	0.5	0.00	76.80	0.47	0.00	65.37	-12.630	-15.219	0.025	190.000	0.000
11.134		163.47	0.5	0.00	76.63	0.47	0.00	65.84	-12.596	-15.185	0.025	190.000	0.000
11.144		163.47	0.5	0.00	76.45	0.47	0.00	66.31	-12.563	-15.152	0.025	190.000	0.000
11.154		163.47	0.5	0.00	76.27	0.47	0.00	66.78	-12.529	-15.118	0.025	190.000	0.000
11.164		163.47	0.5	0.00	76.09	0.47	0.00	67.26	-12.495	-15.084	0.025	190.000	0.000
11.174		163.47	0.5	0.00	75.92	0.47	0.00	67.73	-12.462	-15.051	0.025	190.000	0.000
11.184		163.47	0.5	0.00	75.74	0.47	0.00	68.21	-12.428	-15.017	0.025	190.000	0.000
11.194		163.47	0.5	0.00	75.56	0.48	0.00	68.68	-12.395	-14.984	0.025	190.000	0.000
11.204		163.47	0.5	0.00	75.38	0.48	0.00	69.16	-12.361	-14.950	0.025	190.000	0.000
11.214		163.47	0.5	0.00	75.20	0.48	0.00	69.64	-12.328	-14.917	0.025	190.000	0.000
11.224		163.47	0.5	0.00	75.03	0.48	0.00	70.12	-12.295	-14.884	0.025	190.000	0.000
11.234		163.47	0.5	0.00	74.85	0.48	0.00	70.60	-12.262	-14.850	0.025	190.000	0.000
11.244		163.47	0.5	0.00	74.67	0.48	0.00	71.08	-12.228	-14.817	0.025	190.000	0.000
11.254		163.47	0.5	0.00	74.49	0.48	0.00	71.56	-12.195	-14.784	0.025	190.000	0.000
11.264		163.47	0.5	0.00	74.31	0.48	0.00	72.04	-12.162	-14.751	0.026	190.000	0.000
11.274		163.47	0.5	0.00	74.13	0.49	0.00	72.53	-12.129	-14.718	0.026	190.000	0.000
11.284		163.47	0.5	0.00	73.95	0.49	0.00	73.02	-12.096	-14.685	0.026	190.000	0.000
11.294		163.47	0.5	0.00	73.78	0.49	0.00	73.50	-12.063	-14.652	0.026	190.000	0.000
11.304		163.47	0.5	0.00	73.60	0.49	0.00	73.99	-12.031	-14.619	0.026	190.000	0.000
11.314		163.47	0.5	0.00	73.42	0.49	0.00	74.48	-11.998	-14.587	0.026	190.000	0.000
11.324		163.47	0.5	0.00	73.24	0.49	0.00	74.97	-11.965	-14.554	0.026	190.000	0.000
11.334		163.47	0.5	0.00	73.06	0.49	0.00	75.46	-11.932	-14.521	0.026	190.000	0.000
11.344		163.47	0.5	0.00	72.88	0.49	0.00	75.96	-11.900	-14.489	0.026	190.000	0.000
11.354		163.47	0.5	0.00	72.70	0.49	0.00	76.45	-11.867	-14.456	0.026	190.000	0.000
11.364		163.47	0.5	0.00	72.52	0.50	0.00	76.95	-11.835	-14.423	0.026	190.000	0.000
11.374		163.47	0.5	0.00	72.34	0.50	0.00	77.44	-11.802	-14.391	0.026	190.000	0.000
11.384		163.47	0.5	0.00	72.16	0.50	0.00	77.94	-11.770	-14.359	0.026	190.000	0.000
11.394		163.47	0.5	0.00	71.98	0.50	0.00	78.44	-11.737	-14.326	0.026	190.000	0.000
11.404		163.47	0.5	0.00	71.80	0.50	0.00	78.94	-11.705	-14.294	0.026	190.000	0.000
11.414		163.47	0.5	0.00	71.62	0.50	0.00	79.45	-11.673	-14.262	0.026	190.000	0.000
11.424		163.47	0.5	0.00	71.44	0.50	0.00	79.95	-11.641	-14.229	0.027	190.000	0.000
11.434		163.47	0.5	0.00	71.26	0.50	0.00	80.45	-11.608	-14.197	0.027	190.000	0.000
11.444		163.47	0.5	0.00	71.08	0.51	0.00	80.96	-11.576	-14.165	0.027	190.000	0.000
11.454		163.47	0.5	0.00	70.90	0.51	0.00	81.47	-11.544	-14.133	0.027	190.000	0.000
11.464		163.47	0.5	0.00	70.72	0.51	0.00	81.97	-11.512	-14.101	0.027	190.000	0.000
11.474		163.47	2	0.00	70.27	0.51	0.00	82.49	-20.295	-30.651	0.027	190.000	0.000
11.484		163.47	2	0.00	69.81	0.51	0.00	83.00	-20.216	-30.571	0.027	190.000	0.000
11.494		163.47	2	0.00	69.36	0.52	0.00	83.52	-20.136	-30.492	0.027	190.000	0.000
11.504		163.47	2	0.00	68.90	0.52	0.00	84.04	-20.057	-30.413	0.027	190.000	0.000
11.514		163.47	2	0.00	68.44	0.52	0.00	84.56	-19.978	-30.333	0.028	190.000	0.000
11.524		163.47	2	0.00	67.98	0.53	0.00	85.09	-19.899	-30.254	0.028	190.000	0.000
11.534		163.47	2	0.00	67.51	0.53	0.00	85.62	-19.820	-30.175	0.028	190.000	0.000
11.544		163.47	2	0.00	67.12	0.45	0.00	86.07	-19.741	-30.096	0.024	190.000	0.000
11.559		163.47	2	0.00	66.34	0.89	0.00	86.97	-19.675	-30.030	0.047	190.000	0.000
11.569		163.47	0	0.00	66.25	0.54	0.00	87.51	-7.791	-7.791	0.029	190.000	0.000
11.579		163.47	0	0.00	66.16	0.54	0.00	88.05	-7.776	-7.776	0.029	190.000	0.000
11.589		163.47	0	0.00	66.08	0.54	0.00	88.60	-7.761	-7.761	0.029	190.000	0.000
11.599		163.47	0	0.00	65.99	0.55	0.00	89.14	-7.747	-7.747	0.029	190.000	0.000
11.611		163.47	0	0.00	65.88	0.65	0.00	89.79	-7.732	-7.732	0.034	190.000	0.000
11.619		163.47	0	-1.23	63.89	0.45	0.00	90.24	-36.235	28.684	0.000	0.000	0.437
11.629		163.47	0	-1.23	61.35	0.57	0.00	90.82	-36.053	28.866	0.000	0.000	0.539
11.639		163.47	0	-1.23	58.69	0.60	0.00	91.42	-35.852	29.068	0.000	0.000	0.539
11.649		163.47	0	-1.23	55.91	0.63	0.00	92.04	-35.649	29.270	0.000	0.000	0.539
11.659		163.47	0	-1.23	52.98	0.66	0.00	92.71	-35.445	29.474	0.000	0.000	0.538
11.669		163.47	0	-1.23	49.88	0.70	0.00	93.41	-35.240	29.679	0.000	0.000	0.537
11.679		163.47	0	-1.23	46.58	0.75	0.00	94.15	-35.034	29.885	0.000	0.000	0.536
11.689		163.47	0	-1.23	43.02	0.80	0.00	94.96	-34.826	30.094	0.000	0.000	0.534
11.699		163.47	0	-1.23	39.14	0.88	0.00	95.83	-34.615	30.304	0.000	0.000	0.531
11.709		163.47	0	-1.23	34.83	0.97	0.00	96.81	-34.402	30.518	0.000	0.000	0.528
11.719		163.47	0	-1.23	29.90	1.11	0.00	97.92	-34.184	30.735	0.000	0.000	0.521
11.729		163.47	0	-1.23	23.98	1.34	0.00	99.25	-34.013	31.014	0.000	0.000	0.512
11.739		163.47	0	-1.23	15.98	1.80	0.00	101.06	-33.773	31.253	0.000	0.000	0.489
11.747	Sam Yan	163.47	0	-1.23	0.00	3.60	30.00	134.66	-33.491	31.536	0.000	0.000	0.278
11.757		163.47	0	1.30	18.33	3.93	0.00	138.59	33.218	-35.214	0.834	764.943	0.000
11.767		163.47	0	1.30	25.93	1.63	0.00	140.21	32.888	-35.544	0.715	1581.835	0.000
11.777		163.47	0	1.30	31.75	1.25	0.00	141.46	32.642	-35.790	0.696	2007.819	0.000
11.787		163.47	0	1.30	36.68	1.05	0.00	142.51	32.498	-36.116	0.689	2356.757	0.000
11.797		163.47	0	1.11	40.40	0.93	0.00	143.45	27.192	-31.233	0.591	2278.434	0.000
11.807		163.47	0	0.97	43.39	0.86	0.00	144.31	23.307	-27.708	0.521	2182.545	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
11.817		163.47	0	0.97	46.19	0.80	0.00	145.11	23.142	-27.873	0.519	2324.272	0.000
11.827		163.47	0	0.86	48.53	0.76	0.00	145.87	20.095	-25.136	0.465	2202.038	0.000
11.840		163.47	0	0.86	51.42	0.94	0.00	146.81	19.930	-25.301	0.603	2317.813	0.000
11.850		163.47	-2	0.77	53.33	0.69	0.00	147.49	12.293	-17.980	0.327	1712.904	0.000
11.860		163.47	-2	0.77	55.16	0.66	0.00	148.16	12.165	-18.108	0.327	1771.198	0.000
11.870		163.47	-2	0.70	56.78	0.64	0.00	148.80	10.161	-16.348	0.292	1633.933	0.000
11.880		163.47	-2	0.70	58.35	0.63	0.00	149.43	10.045	-16.463	0.292	1678.764	0.000
11.890		163.47	-2	0.70	59.89	0.61	0.00	150.04	9.930	-16.578	0.291	1722.673	0.000
11.900		163.47	-2	0.70	61.38	0.59	0.00	150.63	9.816	-16.693	0.291	1765.738	0.000
11.910		163.47	-2	0.64	62.71	0.58	0.00	151.21	8.119	-15.215	0.262	1627.355	0.000
11.920		163.47	-2	0.64	64.02	0.57	0.00	151.78	8.014	-15.320	0.262	1661.596	0.000
11.930		163.47	-2	0.64	65.30	0.56	0.00	152.33	7.910	-15.424	0.262	1695.356	0.000
11.940		163.47	-2	0.59	66.45	0.55	0.00	152.88	6.470	-14.183	0.238	1566.901	0.000
11.950		163.47	-2	0.59	67.59	0.54	0.00	153.42	6.374	-14.279	0.238	1594.412	0.000
11.960		163.47	-2	0.59	68.71	0.53	0.00	153.95	6.279	-14.374	0.238	1621.634	0.000
11.970		163.47	-2	0.59	69.80	0.52	0.00	154.47	6.183	-14.469	0.238	1648.584	0.000
11.980		163.47	-2	0.59	70.89	0.51	0.00	154.98	6.088	-14.564	0.238	1675.277	0.000
11.990		163.47	-2	0.54	71.88	0.50	0.00	155.48	4.853	-13.512	0.217	1552.433	0.000
12.000		163.47	-2	0.54	72.85	0.50	0.00	155.98	4.765	-13.600	0.218	1574.695	0.000
12.010		163.47	-2	0.54	73.81	0.49	0.00	156.47	4.677	-13.688	0.218	1596.798	0.000
12.020		163.47	-2	0.54	74.76	0.48	0.00	156.95	4.589	-13.775	0.218	1618.748	0.000
12.030		163.47	-2	0.54	75.70	0.48	0.00	157.43	4.502	-13.863	0.218	1640.554	0.000
12.040		163.47	-2	0.48	76.51	0.47	0.00	157.91	2.685	-12.211	0.187	1421.072	0.000
12.050		163.47	-2	0.48	77.32	0.47	0.00	158.37	2.608	-12.287	0.187	1437.466	0.000
12.060		163.47	-2	0.48	78.12	0.46	0.00	158.84	2.531	-12.364	0.187	1453.789	0.000
12.070		163.47	-2	0.48	78.91	0.46	0.00	159.30	2.454	-12.441	0.187	1470.044	0.000
12.084		163.47	-2	0.48	80.00	0.63	0.00	159.93	2.362	-12.533	0.262	1489.445	0.000
12.094		163.47	-2	0.00	80.00	0.45	0.00	160.38	-10.317	0.039	0.000	0.000	0.041
12.104		163.47	-2	0.00	80.00	0.45	0.00	160.83	-10.317	0.039	0.000	0.000	0.042
12.114		163.47	-2	0.00	80.00	0.45	0.00	161.28	-10.317	0.039	0.000	0.000	0.042
12.124		163.47	-2	0.00	80.00	0.45	0.00	161.73	-10.317	0.039	0.000	0.000	0.042
12.134		163.47	-2	0.00	80.00	0.45	0.00	162.18	-10.317	0.039	0.000	0.000	0.042
12.144		163.47	-2	0.00	80.00	0.45	0.00	162.63	-10.317	0.039	0.000	0.000	0.042
12.154		163.47	-2	0.00	80.00	0.45	0.00	163.08	-10.317	0.039	0.000	0.000	0.042
12.164		163.47	-2	0.00	80.00	0.45	0.00	163.53	-10.317	0.039	0.000	0.000	0.042
12.174		163.47	-2	0.00	80.00	0.45	0.00	163.98	-10.317	0.039	0.000	0.000	0.042
12.184		163.47	-2	0.00	80.00	0.45	0.00	164.43	-10.317	0.039	0.000	0.000	0.042
12.194		163.47	-2	0.00	80.00	0.45	0.00	164.88	-10.317	0.039	0.000	0.000	0.042
12.204		163.47	-2	0.00	80.00	0.45	0.00	165.33	-10.317	0.039	0.000	0.000	0.042
12.213		163.47	-2	0.00	80.00	0.41	0.00	165.74	-10.317	0.039	0.000	0.000	0.038
12.223		163.47	0.5	0.00	79.82	0.45	0.00	166.19	-13.217	-15.806	0.024	190.000	0.000
12.233		163.47	0.5	0.00	79.65	0.45	0.00	166.64	-13.182	-15.771	0.024	190.000	0.000
12.243		163.47	0.5	0.00	79.47	0.45	0.00	167.09	-13.147	-15.736	0.024	190.000	0.000
12.253		163.47	0.5	0.00	79.30	0.45	0.00	167.54	-13.113	-15.701	0.024	190.000	0.000
12.263		163.47	0.5	0.00	79.12	0.45	0.00	168.00	-13.078	-15.667	0.024	190.000	0.000
12.273		163.47	0.5	0.00	78.94	0.46	0.00	168.45	-13.043	-15.632	0.024	190.000	0.000
12.283		163.47	0.5	0.00	78.77	0.46	0.00	168.91	-13.009	-15.598	0.024	190.000	0.000
12.293		163.47	0.5	0.00	78.59	0.46	0.00	169.37	-12.974	-15.563	0.024	190.000	0.000
12.303		163.47	0.5	0.00	78.41	0.46	0.00	169.83	-12.940	-15.529	0.024	190.000	0.000
12.313		163.47	0.5	0.00	78.24	0.46	0.00	170.29	-12.906	-15.495	0.024	190.000	0.000
12.323		163.47	0.5	0.00	78.06	0.46	0.00	170.75	-12.872	-15.460	0.024	190.000	0.000
12.330		163.47	0.5	0.00	77.94	0.32	0.00	171.07	-12.837	-15.426	0.017	190.000	0.000
12.340		163.47	2	0.00	77.51	0.46	0.00	171.53	-21.628	-31.984	0.024	190.000	0.000
12.350		163.47	2	0.00	77.09	0.47	0.00	172.00	-21.547	-31.903	0.025	190.000	0.000
12.360		163.47	2	0.00	76.66	0.47	0.00	172.47	-21.466	-31.821	0.025	190.000	0.000
12.370		163.47	2	0.00	76.24	0.47	0.00	172.94	-21.385	-31.740	0.025	190.000	0.000
12.380		163.47	2	0.00	75.81	0.47	0.00	173.41	-21.304	-31.659	0.025	190.000	0.000
12.395		163.47	2	0.00	75.16	0.72	0.00	174.13	-21.223	-31.578	0.038	190.000	0.000
12.400		163.47	2	0.00	74.94	0.24	0.00	174.37	-21.102	-31.457	0.013	190.000	0.000
12.410		163.47	2	0.00	74.51	0.48	0.00	174.85	-21.061	-31.417	0.025	190.000	0.000
12.430		163.47	2	0.00	73.64	0.97	0.00	175.82	-20.981	-31.336	0.051	190.000	0.000
12.434		163.47	2	-1.23	72.76	0.20	0.00	176.02	-31.775	22.789	0.000	0.000	0.180
12.444		163.47	0	-1.23	70.53	0.50	0.00	176.52	-36.813	28.106	0.000	0.000	0.539
12.454		163.47	0	-1.23	68.24	0.52	0.00	177.04	-36.614	28.306	0.000	0.000	0.539
12.464		163.47	0	-1.23	65.86	0.54	0.00	177.58	-36.414	28.505	0.000	0.000	0.539
12.474		163.47	0	-1.23	63.39	0.56	0.00	178.13	-36.214	28.705	0.000	0.000	0.539
12.484		163.47	0	-1.23	60.82	0.58	0.00	178.71	-36.013	28.906	0.000	0.000	0.539
12.494		163.47	0	-1.23	58.14	0.61	0.00	179.32	-35.811	29.108	0.000	0.000	0.539
12.504		163.47	0	-1.23	55.34	0.63	0.00	179.95	-35.608	29.311	0.000	0.000	0.539
12.514		163.47	0	-1.23	52.38	0.67	0.00	180.62	-35.404	29.515	0.000	0.000	0.538
12.524		163.47	0	-1.23	49.24	0.71	0.00	181.33	-35.199	29.720	0.000	0.000	0.537
12.534		163.47	0	-1.23	45.89	0.76	0.00	182.09	-34.992	29.927	0.000	0.000	0.536
12.544		163.47	0	-1.23	42.27	0.82	0.00	182.90	-34.784	30.136	0.000	0.000	0.534
12.554		163.47	0	-1.23	38.31	0.89	0.00	183.80	-34.573	30.347	0.000	0.000	0.531
12.564		163.47	0	-1.23	33.90	1.00	0.00	184.79	-34.359	30.561	0.000	0.000	0.527
12.574		163.47	0	-1.23	28.81	1.15	0.00	185.94	-34.140	30.780	0.000	0.000	0.520
12.584		163.47	0	-1.23	22.60	1.40	0.00	187.34	-33.966	31.060	0.000	0.000	0.509
12.594		163.47	0	-1.23	13.84	1.98	0.00	189.32	-33.722	31.305	0.000	0.000	0.480

Simulation(Coasting)

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Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
12.600	Silom	163.47	0	-1.23	0.00	3.12	30.00	222.44	-33.473	31.553	0.000	0.000	0.187
12.610		163.47	0	1.30	18.33	3.93	0.00	226.36	33.218	-35.214	0.834	764.967	0.000
12.620		163.47	0	1.30	25.93	1.63	0.00	227.99	32.888	-35.544	0.715	1581.835	0.000
12.630		163.47	0	1.30	31.75	1.25	0.00	229.24	32.642	-35.790	0.696	2007.819	0.000
12.640		163.47	0	1.30	36.68	1.05	0.00	230.29	32.498	-36.116	0.689	2356.757	0.000
12.650		163.47	0	1.11	40.40	0.93	0.00	231.22	27.192	-31.233	0.591	2278.434	0.000
12.660		163.47	-2	0.97	43.39	0.86	0.00	232.08	18.130	-22.531	0.427	1788.483	0.000
12.670		163.47	-2	0.97	46.19	0.80	0.00	232.89	17.965	-22.696	0.425	1902.993	0.000
12.680		163.47	-2	0.86	48.53	0.76	0.00	233.65	14.918	-19.958	0.371	1756.575	0.000
12.690		163.47	-2	0.86	50.77	0.73	0.00	234.37	14.774	-20.102	0.370	1836.338	0.000
12.700		163.47	-2	0.77	52.70	0.70	0.00	235.07	12.336	-17.937	0.327	1693.052	0.000
12.710		163.47	-2	0.77	54.56	0.67	0.00	235.74	12.208	-18.066	0.327	1751.912	0.000
12.720		163.47	-2	0.77	56.36	0.65	0.00	236.39	12.080	-18.193	0.326	1809.137	0.000
12.730		163.47	-2	0.70	57.94	0.63	0.00	237.02	10.076	-16.432	0.292	1666.934	0.000
12.740		163.47	-2	0.70	59.48	0.61	0.00	237.63	9.961	-16.548	0.291	1711.080	0.000
12.750		163.47	-2	0.70	60.98	0.60	0.00	238.23	9.846	-16.662	0.291	1754.363	0.000
12.760		163.47	-2	0.64	62.33	0.58	0.00	238.81	8.149	-15.185	0.262	1617.294	0.000
12.769		163.47	-2	0.64	63.51	0.51	0.00	239.33	8.050	-15.284	0.236	1649.992	0.000
12.780		163.47	0.5	0.64	64.93	0.62	0.00	239.95	14.418	-21.861	0.418	2438.933	0.000
12.790		163.47	0.5	0.64	66.19	0.55	0.00	240.49	14.309	-21.970	0.380	2489.821	0.000
12.800		163.47	0.5	0.59	67.33	0.54	0.00	241.03	12.868	-20.729	0.355	2373.046	0.000
12.810		163.47	0.5	0.59	68.45	0.53	0.00	241.56	12.773	-20.824	0.356	2413.631	0.000
12.820		163.47	0.5	0.59	69.55	0.52	0.00	242.09	12.677	-20.920	0.356	2453.722	0.000
12.830		163.47	0.5	0.59	70.64	0.51	0.00	242.60	12.582	-21.015	0.356	2493.345	0.000
12.840		163.47	0.5	0.54	71.63	0.51	0.00	243.11	11.347	-19.962	0.335	2383.278	0.000
12.850		163.47	0.5	0.54	72.61	0.50	0.00	243.60	11.259	-20.050	0.335	2417.158	0.000
12.860		163.47	0.5	0.54	73.57	0.49	0.00	244.10	11.171	-20.138	0.335	2450.720	0.000
12.870		163.47	0.5	0.54	74.53	0.49	0.00	244.58	11.083	-20.226	0.335	2483.978	0.000
12.880		163.47	0.5	0.54	75.47	0.48	0.00	245.06	10.996	-20.314	0.336	2516.946	0.000
12.890		163.47	0.5	0.48	76.28	0.47	0.00	245.54	9.179	-18.661	0.304	2308.553	0.000
12.900		163.47	0.5	0.48	77.09	0.47	0.00	246.01	9.102	-18.738	0.304	2334.525	0.000
12.910		163.47	0.5	0.48	77.89	0.46	0.00	246.47	9.025	-18.815	0.305	2360.324	0.000
12.920		163.47	0.5	0.48	78.68	0.46	0.00	246.93	8.948	-18.891	0.305	2385.958	0.000
12.937		163.47	0.5	0.48	80.00	0.76	0.00	247.69	8.845	-18.994	0.512	2420.000	0.000
12.940		163.47	0.5	0.00	79.94	0.14	0.00	247.84	-13.216	-15.805	0.008	190.000	0.000
12.950		163.47	0.5	0.00	79.76	0.45	0.00	248.29	-13.205	-15.794	0.024	190.000	0.000
12.960		163.47	0.5	0.00	79.59	0.45	0.00	248.74	-13.170	-15.759	0.024	190.000	0.000
12.970		163.47	0.5	0.00	79.41	0.45	0.00	249.19	-13.136	-15.724	0.024	190.000	0.000
12.980		163.47	0.5	0.00	79.24	0.45	0.00	249.65	-13.101	-15.690	0.024	190.000	0.000
12.990		163.47	0.5	0.00	79.06	0.45	0.00	250.10	-13.066	-15.655	0.024	190.000	0.000
13.000		163.47	0.5	0.00	78.88	0.46	0.00	250.56	-13.032	-15.621	0.024	190.000	0.000
13.010		163.47	0.5	0.00	78.71	0.46	0.00	251.02	-12.997	-15.586	0.024	190.000	0.000
13.020		163.47	0.5	0.00	78.53	0.46	0.00	251.47	-12.963	-15.552	0.024	190.000	0.000
13.030		163.47	0.5	0.00	78.35	0.46	0.00	251.93	-12.929	-15.517	0.024	190.000	0.000
13.040		163.47	0.5	0.00	78.18	0.46	0.00	252.39	-12.894	-15.483	0.024	190.000	0.000
13.050		163.47	0.5	0.00	78.00	0.46	0.00	252.85	-12.860	-15.449	0.024	190.000	0.000
13.060		163.47	0.5	0.00	77.82	0.46	0.00	253.32	-12.826	-15.415	0.024	190.000	0.000
13.070		163.47	0.5	0.00	77.65	0.46	0.00	253.78	-12.792	-15.381	0.024	190.000	0.000
13.080		163.47	0.5	0.00	77.47	0.46	0.00	254.24	-12.758	-15.347	0.024	190.000	0.000
13.090		163.47	0.5	0.00	77.29	0.47	0.00	254.71	-12.724	-15.313	0.025	190.000	0.000
13.100		163.47	0.5	0.00	77.11	0.47	0.00	255.17	-12.690	-15.279	0.025	190.000	0.000
13.110		163.47	0.5	0.00	76.94	0.47	0.00	255.64	-12.656	-15.245	0.025	190.000	0.000
13.120		163.47	0.5	0.00	76.76	0.47	0.00	256.11	-12.622	-15.211	0.025	190.000	0.000
13.130		163.47	0.5	0.00	76.58	0.47	0.00	256.58	-12.588	-15.177	0.025	190.000	0.000
13.140		163.47	0.5	0.00	76.41	0.47	0.00	257.05	-12.555	-15.143	0.025	190.000	0.000
13.150		163.47	0.5	0.00	76.23	0.47	0.00	257.52	-12.521	-15.110	0.025	190.000	0.000
13.160		163.47	0.5	0.00	76.05	0.47	0.00	257.99	-12.487	-15.076	0.025	190.000	0.000
13.170		163.47	0.5	0.00	75.87	0.47	0.00	258.47	-12.454	-15.043	0.025	190.000	0.000
13.180		163.47	0.5	0.00	75.69	0.48	0.00	258.94	-12.420	-15.009	0.025	190.000	0.000
13.190		163.47	0.5	0.00	75.52	0.48	0.00	259.42	-12.387	-14.976	0.025	190.000	0.000
13.200		163.47	0.5	0.00	75.34	0.48	0.00	259.90	-12.353	-14.942	0.025	190.000	0.000
13.210		163.47	0.5	0.00	75.16	0.48	0.00	260.38	-12.320	-14.909	0.025	190.000	0.000
13.220		163.47	0.5	0.00	74.98	0.48	0.00	260.85	-12.287	-14.876	0.025	190.000	0.000
13.230		163.47	0.5	0.00	74.80	0.48	0.00	261.34	-12.253	-14.842	0.025	190.000	0.000
13.240		163.47	0.5	0.00	74.63	0.48	0.00	261.82	-12.220	-14.809	0.025	190.000	0.000
13.250		163.47	0.5	0.00	74.45	0.48	0.00	262.30	-12.187	-14.776	0.025	190.000	0.000
13.260		163.47	0.5	0.00	74.27	0.48	0.00	262.78	-12.154	-14.743	0.026	190.000	0.000
13.270		163.47	0.5	0.00	74.09	0.49	0.00	263.27	-12.121	-14.710	0.026	190.000	0.000
13.280		163.47	0.5	0.00	73.91	0.49	0.00	263.76	-12.088	-14.677	0.026	190.000	0.000
13.290		163.47	0.5	0.00	73.73	0.49	0.00	264.24	-12.055	-14.644	0.026	190.000	0.000
13.305		163.47	0.5	0.00	73.46	0.73	0.00	264.98	-12.022	-14.611	0.039	190.000	0.000
13.315		163.47	2	0.00	73.02	0.49	0.00	265.47	-20.788	-31.144	0.026	190.000	0.000
13.325		163.47	2	0.00	72.58	0.49	0.00	265.96	-20.708	-31.064	0.026	190.000	0.000
13.335		163.47	2	0.00	72.14	0.50	0.00	266.46	-20.628	-30.984	0.026	190.000	0.000
13.347		163.47	2	0.00	71.59	0.62	0.00	267.08	-20.548	-30.904	0.032	190.000	0.000
13.355		163.47	2	0.00	71.25	0.39	0.00	267.47	-20.450	-30.806	0.021	190.000	0.000
13.385		163.47	2	0.00	69.89	1.53	0.00	269.00	-20.389	-30.744	0.081	190.000	0.000
13.402		163.47	2	0.00	69.10	0.89	0.00	269.89	-20.150	-30.505	0.047	190.000	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time,sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
13.405		163.47	2	-1.23	68.47	0.14	0.00	270.03	-31.384	23.180	0.000	0.000	0.121
13.415		163.47	0	-1.23	66.10	0.54	0.00	270.57	-36.434	28.485	0.000	0.000	0.539
13.425		163.47	0	-1.23	63.64	0.55	0.00	271.12	-36.234	28.685	0.000	0.000	0.539
13.435		163.47	0	-1.23	61.09	0.58	0.00	271.70	-36.033	28.886	0.000	0.000	0.539
13.445		163.47	0	-1.23	58.42	0.60	0.00	272.30	-35.831	29.088	0.000	0.000	0.539
13.455		163.47	0	-1.23	55.62	0.63	0.00	272.93	-35.629	29.291	0.000	0.000	0.539
13.465		163.47	0	-1.23	52.68	0.66	0.00	273.60	-35.425	29.495	0.000	0.000	0.538
13.475		163.47	0	-1.23	49.56	0.70	0.00	274.30	-35.220	29.700	0.000	0.000	0.537
13.485		163.47	0	-1.23	46.23	0.75	0.00	275.06	-35.013	29.906	0.000	0.000	0.536
13.495		163.47	0	-1.23	42.65	0.81	0.00	275.87	-34.805	30.115	0.000	0.000	0.534
13.505		163.47	0	-1.23	38.73	0.88	0.00	276.75	-34.594	30.325	0.000	0.000	0.531
13.515		163.47	0	-1.23	34.37	0.99	0.00	277.74	-34.380	30.539	0.000	0.000	0.527
13.525		163.47	0	-1.23	29.36	1.13	0.00	278.86	-34.162	30.757	0.000	0.000	0.521
13.535		163.47	0	-1.23	23.30	1.37	0.00	280.23	-33.989	31.037	0.000	0.000	0.510
13.545		163.47	0	-1.23	14.95	1.88	0.00	282.11	-33.748	31.278	0.000	0.000	0.484
13.552	Lumphini	163.47	0	-1.23	0.00	3.37	30.00	315.48	-33.482	31.544	0.000	0.000	0.232
13.562		163.47	0	1.30	18.33	3.93	0.00	319.41	33.218	-35.214	0.834	764.959	0.000
13.572		163.47	0	1.30	25.93	1.63	0.00	321.04	32.888	-35.544	0.715	1581.835	0.000
13.582		163.47	0	1.30	31.75	1.25	0.00	322.29	32.642	-35.790	0.696	2007.819	0.000
13.592		163.47	0	1.30	36.68	1.05	0.00	323.34	32.498	-36.116	0.689	2356.757	0.000
13.602		163.47	0	1.11	40.40	0.93	0.00	324.27	32.192	-31.233	0.591	2278.434	0.000
13.612		163.47	0	0.97	43.39	0.86	0.00	325.13	32.307	-27.708	0.521	2182.545	0.000
13.622		163.47	0	0.97	46.19	0.80	0.00	325.94	32.142	-27.873	0.519	2324.272	0.000
13.632		163.47	0	0.86	48.53	0.76	0.00	326.70	32.095	-25.136	0.465	2202.038	0.000
13.640		163.47	0	0.86	50.33	0.58	0.00	327.28	19.965	-25.266	0.371	2293.612	0.000
13.650		163.47	-2	0.77	52.27	0.70	0.00	327.98	12.365	-17.909	0.327	1679.704	0.000
13.660		163.47	-2	0.77	54.15	0.68	0.00	328.66	12.236	-18.037	0.327	1738.955	0.000
13.670		163.47	-2	0.77	55.96	0.65	0.00	329.31	12.109	-18.165	0.326	1796.528	0.000
13.680		163.47	-2	0.70	57.56	0.63	0.00	329.94	10.104	-16.404	0.292	1655.960	0.000
13.690		163.47	-2	0.70	59.11	0.62	0.00	330.56	9.989	-16.519	0.291	1700.330	0.000
13.700		163.47	-2	0.70	60.62	0.60	0.00	331.16	9.874	-16.634	0.291	1743.817	0.000
13.710		163.47	-2	0.64	61.97	0.59	0.00	331.75	8.177	-15.157	0.262	1607.972	0.000
13.720		163.47	-2	0.64	63.29	0.57	0.00	332.33	8.073	-15.261	0.262	1642.498	0.000
13.730		163.47	-2	0.64	64.58	0.56	0.00	332.89	7.969	-15.366	0.262	1676.523	0.000
13.740		163.47	-2	0.64	65.85	0.55	0.00	333.44	7.864	-15.470	0.262	1710.082	0.000
13.750		163.47	-0.98	0.59	67.00	0.54	0.00	333.98	9.067	-16.872	0.286	1899.066	0.000
13.760		163.47	-0.98	0.59	68.13	0.53	0.00	334.52	8.972	-16.967	0.286	1931.894	0.000
13.770		163.47	-0.98	0.59	69.23	0.52	0.00	335.04	8.876	-17.063	0.286	1964.351	0.000
13.780		163.47	-0.98	0.59	70.32	0.52	0.00	335.56	8.781	-17.158	0.286	1996.458	0.000
13.790		163.47	-0.98	0.54	71.32	0.51	0.00	336.06	7.546	-16.106	0.265	1879.905	0.000
13.800		163.47	-0.98	0.54	72.30	0.50	0.00	336.57	7.458	-16.194	0.266	1907.010	0.000
13.810		163.47	-0.98	0.54	73.27	0.49	0.00	337.06	7.370	-16.282	0.266	1933.886	0.000
13.820		163.47	-0.98	0.54	74.23	0.49	0.00	337.55	7.282	-16.369	0.266	1960.543	0.000
13.830		163.47	-0.98	0.54	75.17	0.48	0.00	338.03	7.194	-16.457	0.266	1986.992	0.000
13.840		163.47	-0.98	0.48	75.99	0.48	0.00	338.51	5.377	-14.804	0.235	1773.468	0.000
13.850		163.47	-0.98	0.48	76.80	0.47	0.00	338.98	5.300	-14.881	0.235	1793.828	0.000
13.860		163.47	-0.98	0.48	77.61	0.47	0.00	339.44	5.223	-14.958	0.235	1814.072	0.000
13.870		163.47	-0.98	0.48	78.40	0.46	0.00	339.91	5.147	-15.035	0.235	1834.207	0.000
13.880		163.47	-0.98	0.48	79.19	0.46	0.00	340.36	5.070	-15.112	0.235	1854.236	0.000
13.890		163.47	-0.98	0.48	80.00	0.47	0.00	340.83	4.992	-15.190	0.245	1874.559	0.000
13.900		163.47	-0.98	0.00	80.00	0.45	0.00	341.28	-7.674	-2.605	0.007	53.088	0.000
13.910		163.47	-0.98	0.00	80.00	0.45	0.00	341.73	-7.674	-2.605	0.006	50.064	0.000
13.920		163.47	-0.98	0.00	80.00	0.45	0.00	342.18	-7.674	-2.605	0.006	50.064	0.000
13.930		163.47	-0.98	0.00	80.00	0.45	0.00	342.63	-7.674	-2.605	0.006	50.064	0.000
13.940		163.47	-0.98	0.00	80.00	0.45	0.00	343.08	-7.674	-2.605	0.006	50.064	0.000
13.950		163.47	-0.98	0.00	80.00	0.45	0.00	343.53	-7.674	-2.605	0.006	50.064	0.000
13.960		163.47	-0.98	0.00	80.00	0.45	0.00	343.98	-7.674	-2.605	0.006	50.064	0.000
13.970		163.47	-0.98	0.00	80.00	0.45	0.00	344.43	-7.674	-2.605	0.006	50.064	0.000
13.980		163.47	-0.98	0.00	80.00	0.45	0.00	344.88	-7.674	-2.605	0.006	50.064	0.000
13.990		163.47	-0.98	0.00	80.00	0.45	0.00	345.33	-7.674	-2.605	0.006	50.064	0.000
14.000		163.47	-0.98	0.00	80.00	0.45	0.00	345.78	-7.674	-2.605	0.006	50.064	0.000
14.010		163.47	-0.98	0.00	80.00	0.45	0.00	346.23	-7.674	-2.605	0.006	50.064	0.000
14.020		163.47	-0.98	0.00	80.00	0.45	0.00	346.68	-7.674	-2.605	0.006	50.064	0.000
14.030		163.47	-0.98	0.00	80.00	0.45	0.00	347.13	-7.674	-2.605	0.006	50.064	0.000
14.040		163.47	-0.98	0.00	80.00	0.45	0.00	347.58	-7.674	-2.605	0.006	50.064	0.000
14.050		163.47	-0.98	0.00	80.00	0.45	0.00	348.03	-7.674	-2.605	0.006	50.064	0.000
14.060		163.47	-0.98	0.00	80.00	0.45	0.00	348.48	-7.674	-2.605	0.006	50.064	0.000
14.070		163.47	-0.98	0.00	80.00	0.45	0.00	348.93	-7.674	-2.605	0.006	50.064	0.000
14.080		163.47	-0.98	0.00	80.00	0.45	0.00	349.38	-7.674	-2.605	0.006	50.064	0.000
14.090		163.47	-0.98	0.00	80.00	0.45	0.00	349.83	-7.674	-2.605	0.006	50.064	0.000
14.100		163.47	-0.98	0.00	80.00	0.45	0.00	350.28	-7.674	-2.605	0.006	50.064	0.000
14.110		163.47	-0.98	0.00	80.00	0.45	0.00	350.73	-7.674	-2.605	0.006	50.064	0.000
14.120		163.47	-0.98	0.00	80.00	0.45	0.00	351.18	-7.674	-2.605	0.006	50.064	0.000
14.130		163.47	-0.98	0.00	80.00	0.45	0.00	351.63	-7.674	-2.605	0.006	50.064	0.000
14.140		163.47	-0.98	0.00	80.00	0.45	0.00	352.08	-7.674	-2.605	0.006	50.064	0.000
14.150		163.47	-0.98	0.00	80.00	0.45	0.00	352.53	-7.674	-2.605	0.006	50.064	0.000
14.160		163.47	-0.98	0.00	80.00	0.45	0.00	352.98	-7.674	-2.605	0.006	50.064	0.000
14.170		163.47	-0.98										

Simulation(Coasting)

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Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time,sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
14.180		163.47	-0.98	0.00	80.00	0.45	0.00	353.88	-7.674	-2.605	0.006	50.064	0.000
14.190		163.47	-0.98	0.00	80.00	0.45	0.00	354.33	-7.674	-2.605	0.006	50.064	0.000
14.200		163.47	-0.98	0.00	80.00	0.45	0.00	354.78	-7.674	-2.605	0.006	50.064	0.000
14.210		163.47	-0.98	0.00	80.00	0.45	0.00	355.23	-7.674	-2.605	0.006	50.064	0.000
14.220		163.47	-0.98	0.00	80.00	0.45	0.00	355.68	-7.674	-2.605	0.006	50.064	0.000
14.237		163.47	-0.98	0.00	80.00	0.75	0.00	356.43	-7.674	-2.605	0.010	50.064	0.000
14.247		163.47	2	0.00	79.58	0.45	0.00	356.88	-22.032	-32.387	0.024	190.000	0.000
14.257		163.47	2	0.00	79.17	0.45	0.00	357.33	-21.950	-32.305	0.024	190.000	0.000
14.267		163.47	2	0.00	78.75	0.46	0.00	357.79	-21.868	-32.223	0.024	190.000	0.000
14.277		163.47	2	0.00	78.33	0.46	0.00	358.25	-21.786	-32.142	0.024	190.000	0.000
14.283		163.47	2	0.00	78.06	0.29	0.00	358.54	-21.705	-32.060	0.016	190.000	0.000
14.293		163.47	2	0.00	77.64	0.46	0.00	359.01	-21.653	-32.008	0.024	190.000	0.000
14.303		163.47	2	0.00	77.21	0.46	0.00	359.47	-21.571	-31.927	0.025	190.000	0.000
14.313		163.47	2	0.00	76.79	0.47	0.00	359.94	-21.490	-31.845	0.025	190.000	0.000
14.329		163.47	2	0.00	76.12	0.74	0.00	360.67	-21.409	-31.764	0.039	190.000	0.000
14.337		163.47	2	0.00	75.78	0.38	0.00	361.05	-21.282	-31.638	0.020	190.000	0.000
14.347		163.47	2	0.00	75.35	0.48	0.00	361.53	-21.218	-31.573	0.025	190.000	0.000
14.362		163.47	2	0.00	74.70	0.72	0.00	362.25	-21.137	-31.492	0.038	190.000	0.000
14.367		163.47	2	-1.23	73.63	0.24	0.00	362.49	-31.864	22.700	0.000	0.000	0.222
14.375		163.47	2	-1.23	71.87	0.40	0.00	362.89	-31.735	22.829	0.000	0.000	0.356
14.385		163.47	0	-1.23	69.62	0.51	0.00	363.40	-36.733	28.186	0.000	0.000	0.539
14.395		163.47	0	-1.23	67.29	0.53	0.00	363.92	-36.534	28.385	0.000	0.000	0.539
14.405		163.47	0	-1.23	64.88	0.54	0.00	364.47	-36.334	28.585	0.000	0.000	0.539
14.415		163.47	0	-1.23	62.38	0.57	0.00	365.03	-36.133	28.786	0.000	0.000	0.539
14.425		163.47	0	-1.23	59.77	0.59	0.00	365.62	-35.932	28.987	0.000	0.000	0.539
14.435		163.47	0	-1.23	57.04	0.62	0.00	366.24	-35.730	29.189	0.000	0.000	0.539
14.445		163.47	0	-1.23	54.17	0.65	0.00	366.89	-35.527	29.393	0.000	0.000	0.538
14.455		163.47	0	-1.23	51.14	0.68	0.00	367.57	-35.322	29.597	0.000	0.000	0.538
14.465		163.47	0	-1.23	47.92	0.73	0.00	368.30	-35.117	29.803	0.000	0.000	0.537
14.475		163.47	0	-1.23	44.47	0.78	0.00	369.07	-34.909	30.010	0.000	0.000	0.535
14.485		163.47	0	-1.23	40.73	0.85	0.00	369.92	-34.700	30.220	0.000	0.000	0.533
14.495		163.47	0	-1.23	36.61	0.93	0.00	370.85	-34.487	30.432	0.000	0.000	0.529
14.505		163.47	0	-1.23	31.96	1.05	0.00	371.90	-34.272	30.648	0.000	0.000	0.524
14.515		163.47	0	-1.23	26.51	1.23	0.00	373.13	-34.050	30.869	0.000	0.000	0.516
14.525		163.47	0	-1.23	19.58	1.56	0.00	374.69	-33.872	31.154	0.000	0.000	0.501
14.537	Bon Kai	163.47	0	-1.23	0.00	4.41	30.00	409.11	-33.522	31.504	0.000	0.000	0.469
14.547		163.47	0	1.30	18.33	3.93	0.00	413.03	33.218	-35.214	0.834	764.968	0.000
14.557		163.47	0	1.30	25.93	1.63	0.00	414.66	32.888	-35.544	0.715	1581.835	0.000
14.567		163.47	0	1.30	31.75	1.25	0.00	415.91	32.642	-35.790	0.696	2007.819	0.000
14.577		163.47	0	1.30	36.68	1.05	0.00	416.96	32.498	-36.116	0.689	2356.757	0.000
14.587		163.47	0	1.11	40.40	0.93	0.00	417.90	27.192	-31.233	0.591	2278.434	0.000
14.597		163.47	0	0.97	43.39	0.86	0.00	418.76	23.307	-27.708	0.521	2182.545	0.000
14.607		163.47	0	0.97	46.19	0.80	0.00	419.56	23.142	-27.873	0.519	2324.272	0.000
14.617		163.47	0	0.86	48.53	0.76	0.00	420.32	20.095	-25.136	0.465	2202.038	0.000
14.627		163.47	0	0.86	50.77	0.73	0.00	421.04	19.951	-25.280	0.464	2303.351	0.000
14.637		163.47	0	0.77	52.70	0.70	0.00	421.74	17.514	-23.115	0.421	2179.655	0.000
14.647		163.47	0	0.77	54.56	0.67	0.00	422.41	17.386	-23.243	0.421	2256.335	0.000
14.657		163.47	0	0.77	56.36	0.65	0.00	423.06	17.258	-23.371	0.420	2330.769	0.000
14.667		163.47	0	0.70	57.94	0.63	0.00	423.69	15.254	-21.610	0.386	2204.476	0.000
14.677		163.47	0	0.70	59.48	0.61	0.00	424.30	15.139	-21.725	0.386	2263.323	0.000
14.687		163.47	0	0.70	60.98	0.60	0.00	424.90	15.024	-21.840	0.385	2320.924	0.000
14.697		163.47	0	0.64	62.33	0.58	0.00	425.49	13.327	-20.363	0.356	2197.234	0.000
14.707		163.47	0	0.64	63.64	0.57	0.00	426.06	13.223	-20.467	0.356	2244.109	0.000
14.716		163.47	0	0.64	64.80	0.50	0.00	426.56	13.123	-20.566	0.321	2287.968	0.000
14.726		163.47	-3.2	0.64	66.06	0.55	0.00	427.11	4.740	-12.381	0.206	1346.420	0.000
14.736		163.47	-3.2	0.59	67.21	0.54	0.00	427.65	3.300	-11.140	0.181	1209.072	0.000
14.746		163.47	-3.2	0.59	68.33	0.53	0.00	428.18	3.204	-11.235	0.182	1229.995	0.000
14.756		163.47	-3.2	0.59	69.43	0.52	0.00	428.71	3.109	-11.330	0.182	1250.745	0.000
14.766		163.47	-3.2	0.59	70.52	0.51	0.00	429.22	3.014	-11.426	0.182	1271.334	0.000
14.776		163.47	-3.2	0.54	71.52	0.51	0.00	429.73	1.778	-10.373	0.161	1143.447	0.000
14.786		163.47	-3.2	0.54	72.50	0.50	0.00	430.23	1.690	-10.461	0.161	1160.205	0.000
14.796		163.47	-3.2	0.54	73.46	0.49	0.00	430.72	1.603	-10.549	0.161	1176.874	0.000
14.806		163.47	-3.2	0.54	74.42	0.49	0.00	431.21	1.515	-10.637	0.161	1193.461	0.000
14.816		163.47	-3.2	0.54	75.36	0.48	0.00	431.69	1.427	-10.724	0.162	1209.970	0.000
14.826		163.47	-3.2	0.48	76.18	0.48	0.00	432.16	-0.390	-9.072	0.130	986.637	0.000
14.836		163.47	-3.2	0.48	76.99	0.47	0.00	432.63	-0.467	-9.149	0.130	998.468	0.000
14.850		163.47	-3.2	0.48	78.07	0.63	0.00	433.26	-0.557	-9.239	0.178	1012.384	0.000
14.860		163.47	-3.2	-1.10	76.23	0.47	0.00	433.73	-42.135	32.410	0.000	0.000	0.625
14.870		163.47	-3.2	-1.10	74.34	0.48	0.00	434.21	-41.958	32.587	0.000	0.000	0.626
14.880		163.47	-3.2	-1.23	72.16	0.49	0.00	434.70	-45.242	36.246	0.000	0.000	0.689
14.890		163.47	-3.2	-1.23	69.92	0.51	0.00	435.21	-45.043	36.445	0.000	0.000	0.690
14.900		163.47	-3.2	-1.23	67.60	0.52	0.00	435.73	-44.844	36.644	0.000	0.000	0.690
14.910		163.47	-3.2	-1.23	65.20	0.54	0.00	436.27	-44.644	36.844	0.000	0.000	0.690
14.920		163.47	-3.2	-1.23	62.70	0.56	0.00	436.84	-44.444	37.044	0.000	0.000	0.690
14.930		163.47	-3.2	-1.23	60.11	0.59	0.00	437.42	-44.243	37.246	0.000	0.000	0.690
14.930	(Start of Curve)	163.47	-3.2	-1.23	60.00	0.02	0.00	437.45	-44.139	37.349	0.000	0.000	0.028
14.940		163.47	-3.2	0.00	60.00	0.60	0.00	438.05	-11.675	4.894	0.000	0.000	0.100
14.950		163.47	-3.2	0.00	60.00	0.60	0.00	438.65	-11.675	4.894	0.000	0.000	0.100

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
14.960		163.47	-3.2	0.00	60.00	0.60	0.00	439.25	-11.675	4.894	0.000	0.000	0.100
14.970		163.47	-3.2	0.00	60.00	0.60	0.00	439.85	-11.675	4.894	0.000	0.000	0.100
14.980		163.47	-3.2	0.00	60.00	0.60	0.00	440.45	-11.675	4.894	0.000	0.000	0.100
14.990		163.47	-3.2	0.00	60.00	0.60	0.00	441.05	-11.675	4.894	0.000	0.000	0.100
15.002		163.47	-3.2	0.00	60.00	0.72	0.00	441.77	-11.675	4.894	0.000	0.000	0.120
15.012		163.47	4.25	0.00	59.01	0.61	0.00	442.37	-31.757	-53.762	0.032	190.000	0.000
15.022		163.47	4.25	0.00	58.00	0.62	0.00	442.99	-31.607	-53.612	0.032	190.000	0.000
15.032		163.47	4.25	0.00	56.97	0.63	0.00	443.61	-31.457	-53.462	0.033	190.000	0.000
15.042		163.47	4.25	0.00	55.93	0.64	0.00	444.25	-31.307	-53.312	0.034	190.000	0.000
15.052		163.47	4.25	0.00	54.87	0.65	0.00	444.90	-31.157	-53.162	0.034	190.000	0.000
15.062		163.47	4.25	0.00	53.79	0.66	0.00	445.56	-31.007	-53.012	0.035	190.000	0.000
15.072		163.47	4.25	0.00	52.70	0.68	0.00	446.24	-30.857	-52.862	0.036	190.000	0.000
15.082		163.47	4.25	0.00	51.58	0.69	0.00	446.93	-30.707	-52.712	0.036	190.000	0.000
15.092		163.47	4.25	0.00	50.44	0.71	0.00	447.64	-30.557	-52.562	0.037	190.000	0.000
15.102		163.47	4.25	0.00	49.27	0.72	0.00	448.36	-30.407	-52.412	0.038	190.000	0.000
15.112		163.47	4.25	0.00	48.08	0.74	0.00	449.10	-30.256	-52.262	0.039	190.000	0.000
15.122		163.47	4.25	0.00	46.86	0.76	0.00	449.86	-30.106	-52.111	0.040	190.000	0.000
15.132		163.47	4.25	0.00	45.61	0.78	0.00	450.63	-29.955	-51.960	0.041	190.000	0.000
15.142		163.47	4.25	0.00	44.33	0.80	0.00	451.43	-29.804	-51.810	0.042	190.000	0.000
15.152		163.47	4.25	0.00	43.01	0.82	0.00	452.26	-29.653	-51.659	0.044	190.000	0.000
15.162		163.47	4.25	0.00	41.65	0.85	0.00	453.11	-29.502	-51.507	0.045	190.000	0.000
15.170		163.47	4.25	0.00	40.54	0.70	0.00	453.81	-29.350	-51.356	0.037	190.000	0.000
15.180		163.47	0	0.00	40.46	0.89	0.00	454.70	-4.253	-4.253	0.047	190.000	0.000
15.190		163.47	0	0.00	40.38	0.89	0.00	455.59	-4.244	-4.244	0.047	190.000	0.000
15.206	(End of Curve)	163.47	0	0.00	40.25	1.43	0.00	457.02	-4.236	-4.236	0.075	190.000	0.000
15.210		163.47	0	0.00	40.22	0.36	0.00	457.38	-4.222	-4.222	0.019	190.000	0.000
15.220		163.47	0	0.00	40.14	0.90	0.00	458.27	-4.219	-4.219	0.047	190.000	0.000
15.231		163.47	0	0.00	40.06	1.00	0.00	459.27	-4.211	-4.211	0.053	190.000	0.000
15.240		163.47	0	0.00	39.99	0.80	0.00	460.07	-4.201	-4.201	0.042	190.000	0.000
15.250		163.47	0	0.00	39.91	0.90	0.00	460.97	-4.194	-4.194	0.048	190.000	0.000
15.260		163.47	0	0.00	39.83	0.90	0.00	461.87	-4.185	-4.185	0.048	190.000	0.000
15.270		163.47	0	0.00	39.75	0.90	0.00	462.78	-4.177	-4.177	0.048	190.000	0.000
15.280		163.47	0	0.00	39.67	0.91	0.00	463.69	-4.169	-4.169	0.048	190.000	0.000
15.295		163.47	0	0.00	39.55	1.36	0.00	465.05	-4.160	-4.160	0.072	190.000	0.000
15.300		163.47	0	-1.23	37.47	0.47	0.00	465.52	-34.479	30.440	0.000	0.000	0.266
15.310		163.47	0	-1.23	32.94	1.02	0.00	466.54	-34.315	30.604	0.000	0.000	0.525
15.320		163.47	0	-1.23	27.68	1.19	0.00	467.73	-34.095	30.824	0.000	0.000	0.518
15.330		163.47	0	-1.23	21.14	1.47	0.00	469.20	-33.919	31.107	0.000	0.000	0.505
15.344	Sirikit Centre	163.47	0	-1.23	0.00	4.77	30.00	503.97	-33.538	31.489	0.000	0.000	0.567
15.354		163.47	0	1.30	18.33	3.93	0.00	507.89	33.218	-35.214	0.834	764.936	0.000
15.364		163.47	0	1.30	25.93	1.63	0.00	509.52	32.888	-35.544	0.715	1581.835	0.000
15.374		163.47	0	1.30	31.75	1.25	0.00	510.77	32.642	-35.790	0.696	2007.819	0.000
15.384		163.47	0	1.30	36.68	1.05	0.00	511.82	32.498	-36.116	0.689	2356.757	0.000
15.394		163.47	0	1.11	40.40	0.93	0.00	512.76	27.192	-31.233	0.591	2278.434	0.000
15.404		163.47	0	0.97	43.39	0.86	0.00	513.61	23.307	-27.708	0.521	2182.545	0.000
15.414		163.47	0	0.97	46.19	0.80	0.00	514.42	23.142	-27.873	0.519	2324.272	0.000
15.424		163.47	0	0.86	48.53	0.76	0.00	515.18	20.095	-25.136	0.465	2202.038	0.000
15.434		163.47	0	0.86	50.77	0.73	0.00	515.90	19.951	-25.280	0.464	2303.351	0.000
15.444		163.47	0	0.77	52.70	0.70	0.00	516.60	17.514	-23.115	0.421	2179.655	0.000
15.454		163.47	0	0.77	54.56	0.67	0.00	517.27	17.386	-23.243	0.421	2256.335	0.000
15.464		163.47	0	0.77	56.36	0.65	0.00	517.92	17.258	-23.371	0.420	2330.769	0.000
15.476	(Start of Curve)	163.47	0	0.70	58.25	0.75	0.00	518.67	15.242	-21.621	0.463	2210.330	0.000
15.487		163.47	0	0.70	60.00	0.69	0.00	519.37	15.108	-21.756	0.439	2278.937	0.000
15.497		163.47	0	0.00	60.00	0.60	0.00	519.97	-3.390	-3.390	0.051	302.999	0.000
15.507		163.47	0	0.00	60.00	0.60	0.00	520.57	-3.390	-3.390	0.051	302.999	0.000
15.513	(End of Curve)	163.47	-2	0.00	60.00	0.34	0.00	520.90	-8.568	1.788	0.000	0.000	0.024
15.523		163.47	-2	0.00	60.00	0.60	0.00	521.50	-8.568	1.788	0.000	0.000	0.044
15.533		163.47	-2	0.00	60.00	0.60	0.00	522.10	-8.568	1.788	0.000	0.000	0.044
15.543		163.47	-2	0.00	60.00	0.60	0.00	522.70	-8.568	1.788	0.000	0.000	0.044
15.553		163.47	-2	0.00	60.00	0.60	0.00	523.30	-8.568	1.788	0.000	0.000	0.044
15.564		163.47	-2	0.00	60.00	0.66	0.00	523.96	-8.568	1.788	0.000	0.000	0.048
15.577		163.47	-0.5	0.00	60.00	0.78	0.00	524.74	-4.685	-2.096	0.035	161.914	0.000
15.587		163.47	-0.5	0.70	61.49	0.59	0.00	525.34	13.690	-20.585	0.362	2197.405	0.000
15.597		163.47	-0.5	0.64	62.82	0.58	0.00	525.92	11.994	-19.107	0.333	2068.610	0.000
15.607		163.47	-0.5	0.64	64.12	0.57	0.00	526.48	11.889	-19.212	0.333	2112.103	0.000
15.617		163.47	-0.5	0.64	65.40	0.56	0.00	527.04	11.785	-19.316	0.333	2154.929	0.000
15.627		163.47	-0.5	0.59	66.55	0.55	0.00	527.58	10.344	-18.075	0.308	2034.769	0.000
15.637		163.47	-0.5	0.59	67.69	0.54	0.00	528.12	10.249	-18.170	0.308	2070.325	0.000
15.647		163.47	-0.5	0.59	68.80	0.53	0.00	528.65	10.153	-18.266	0.309	2105.459	0.000
15.657		163.47	-0.5	0.59	69.90	0.52	0.00	529.17	10.058	-18.361	0.309	2140.194	0.000
15.667		163.47	-0.5	0.59	70.98	0.51	0.00	529.68	9.963	-18.456	0.309	2174.550	0.000
15.677		163.47	-0.5	0.54	71.97	0.50	0.00	530.18	8.728	-17.404	0.288	2058.784	0.000
15.687		163.47	-0.5	0.54	72.94	0.50	0.00	530.68	8.640	-17.492	0.288	2087.945	0.000
15.697		163.47	-0.5	0.54	73.90	0.49	0.00	531.17	8.552	-17.579	0.288	2116.854	0.000
15.707		163.47	-0.5	0.54	74.85	0.48	0.00	531.65	8.464	-17.667	0.288	2145.522	0.000
15.717		163.47	-0.5	0.54	75.79	0.48	0.00	532.13	8.377	-17.755	0.289	2173.962	0.000
15.727		163.47	-0.5	0.48	76.60	0.47	0.00	532.60	6.560	-16.102	0.257	1960.363	0.000
15.737		163.47	-0.5	0.48	77.41	0.47	0.00	533.07	6.483	-16.179	0.257	1982.460	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
15.747		163.47	-0.5	0.48	78.20	0.46	0.00	533.53	6.406	-16.256	0.258	2004.427	0.000
15.757		163.47	-0.5	0.48	78.99	0.46	0.00	533.99	6.329	-16.333	0.258	2026.268	0.000
15.770		163.47	-0.5	0.48	80.00	0.58	0.00	534.58	6.242	-16.420	0.333	2051.111	0.000
15.780		163.47	-0.5	0.00	79.98	0.45	0.00	535.03	-7.340	-4.751	0.024	190.000	0.000
15.790		163.47	-0.5	0.00	79.96	0.45	0.00	535.48	-7.336	-4.747	0.024	190.000	0.000
15.800		163.47	-0.5	0.00	79.95	0.45	0.00	535.93	-7.333	-4.744	0.024	190.000	0.000
15.810		163.47	-0.5	0.00	79.93	0.45	0.00	536.38	-7.329	-4.741	0.024	190.000	0.000
15.820		163.47	-0.5	0.00	79.91	0.45	0.00	536.83	-7.326	-4.737	0.024	190.000	0.000
15.830		163.47	-0.5	0.00	79.90	0.45	0.00	537.28	-7.323	-4.734	0.024	190.000	0.000
15.840		163.47	-0.5	0.00	79.88	0.45	0.00	537.73	-7.319	-4.731	0.024	190.000	0.000
15.850		163.47	-0.5	0.00	79.86	0.45	0.00	538.18	-7.316	-4.727	0.024	190.000	0.000
15.860		163.47	-0.5	0.00	79.85	0.45	0.00	538.63	-7.313	-4.724	0.024	190.000	0.000
15.870		163.47	-0.5	0.00	79.83	0.45	0.00	539.08	-7.310	-4.721	0.024	190.000	0.000
15.880		163.47	-0.5	0.00	79.81	0.45	0.00	539.53	-7.306	-4.717	0.024	190.000	0.000
15.890		163.47	-0.5	0.00	79.80	0.45	0.00	539.98	-7.303	-4.714	0.024	190.000	0.000
15.900		163.47	-0.5	0.00	79.78	0.45	0.00	540.43	-7.300	-4.711	0.024	190.000	0.000
15.910		163.47	-0.5	0.00	79.76	0.45	0.00	540.89	-7.296	-4.707	0.024	190.000	0.000
15.920		163.47	-0.5	0.00	79.75	0.45	0.00	541.34	-7.293	-4.704	0.024	190.000	0.000
15.930		163.47	-0.5	0.00	79.73	0.45	0.00	541.79	-7.290	-4.701	0.024	190.000	0.000
15.940		163.47	-0.5	0.00	79.71	0.45	0.00	542.24	-7.286	-4.698	0.024	190.000	0.000
15.950		163.47	-0.5	0.00	79.70	0.45	0.00	542.69	-7.283	-4.694	0.024	190.000	0.000
15.955		163.47	-0.5	0.00	79.69	0.23	0.00	542.92	-7.280	-4.691	0.012	190.000	0.000
15.965		163.47	0.5	0.00	79.51	0.45	0.00	543.38	-13.155	-15.744	0.024	190.000	0.000
15.975		163.47	0.5	0.00	79.33	0.45	0.00	543.83	-13.120	-15.709	0.024	190.000	0.000
15.985		163.47	0.5	0.00	79.16	0.45	0.00	544.28	-13.086	-15.675	0.024	190.000	0.000
15.995		163.47	0.5	0.00	78.98	0.46	0.00	544.74	-13.051	-15.640	0.024	190.000	0.000
16.005		163.47	0.5	0.00	78.81	0.46	0.00	545.19	-13.017	-15.605	0.024	190.000	0.000
16.015		163.47	0.5	0.00	78.63	0.46	0.00	545.65	-12.982	-15.571	0.024	190.000	0.000
16.025		163.47	0.5	0.00	78.45	0.46	0.00	546.11	-12.948	-15.537	0.024	190.000	0.000
16.035		163.47	0.5	0.00	78.28	0.46	0.00	546.57	-12.913	-15.502	0.024	190.000	0.000
16.045		163.47	0.5	0.00	78.10	0.46	0.00	547.03	-12.879	-15.468	0.024	190.000	0.000
16.055		163.47	0.5	0.00	77.92	0.46	0.00	547.49	-12.845	-15.434	0.024	190.000	0.000
16.065		163.47	0.5	0.00	77.74	0.46	0.00	547.95	-12.811	-15.400	0.024	190.000	0.000
16.075		163.47	0.5	0.00	77.57	0.46	0.00	548.42	-12.777	-15.366	0.024	190.000	0.000
16.085		163.47	0.5	0.00	77.39	0.46	0.00	548.88	-12.743	-15.332	0.025	190.000	0.000
16.095		163.47	0.5	0.00	77.21	0.47	0.00	549.35	-12.709	-15.298	0.025	190.000	0.000
16.105		163.47	0.5	0.00	77.04	0.47	0.00	549.81	-12.675	-15.264	0.025	190.000	0.000
16.115		163.47	0.5	0.00	76.86	0.47	0.00	550.28	-12.641	-15.230	0.025	190.000	0.000
16.125		163.47	0.5	0.00	76.68	0.47	0.00	550.75	-12.607	-15.196	0.025	190.000	0.000
16.135		163.47	0.5	0.00	76.50	0.47	0.00	551.22	-12.573	-15.162	0.025	190.000	0.000
16.145		163.47	0.5	0.00	76.33	0.47	0.00	551.69	-12.540	-15.128	0.025	190.000	0.000
16.155		163.47	0.5	0.00	76.15	0.47	0.00	552.16	-12.506	-15.095	0.025	190.000	0.000
16.165		163.47	0.5	0.00	75.97	0.47	0.00	552.64	-12.472	-15.061	0.025	190.000	0.000
16.175		163.47	0.5	0.00	75.79	0.47	0.00	553.11	-12.439	-15.028	0.025	190.000	0.000
16.185		163.47	0.5	0.00	75.62	0.48	0.00	553.59	-12.405	-14.994	0.025	190.000	0.000
16.195		163.47	0.5	0.00	75.44	0.48	0.00	554.06	-12.372	-14.961	0.025	190.000	0.000
16.205		163.47	0.5	0.00	75.26	0.48	0.00	554.54	-12.339	-14.927	0.025	190.000	0.000
16.215		163.47	0.5	0.00	75.08	0.48	0.00	555.02	-12.305	-14.894	0.025	190.000	0.000
16.225		163.47	0.5	0.00	74.90	0.48	0.00	555.50	-12.272	-14.861	0.025	190.000	0.000
16.235		163.47	0.5	0.00	74.72	0.48	0.00	555.98	-12.239	-14.828	0.025	190.000	0.000
16.245		163.47	0.5	0.00	74.55	0.48	0.00	556.46	-12.206	-14.795	0.025	190.000	0.000
16.255		163.47	0.5	0.00	74.37	0.48	0.00	556.95	-12.173	-14.761	0.026	190.000	0.000
16.265		163.47	0.5	0.00	74.19	0.48	0.00	557.43	-12.140	-14.728	0.026	190.000	0.000
16.275		163.47	0.5	0.00	74.01	0.49	0.00	557.92	-12.107	-14.695	0.026	190.000	0.000
16.285		163.47	0.5	0.00	73.83	0.49	0.00	558.41	-12.074	-14.663	0.026	190.000	0.000
16.295		163.47	0.5	0.00	73.65	0.49	0.00	558.89	-12.041	-14.630	0.026	190.000	0.000
16.305		163.47	0.5	0.00	73.47	0.49	0.00	559.38	-12.008	-14.597	0.026	190.000	0.000
16.315		163.47	0.5	0.00	73.30	0.49	0.00	559.87	-11.975	-14.564	0.026	190.000	0.000
16.325		163.47	0.5	0.00	73.12	0.49	0.00	560.37	-11.943	-14.531	0.026	190.000	0.000
16.335		163.47	0.5	0.00	72.94	0.49	0.00	560.86	-11.910	-14.499	0.026	190.000	0.000
16.345		163.47	0.5	0.00	72.76	0.49	0.00	561.35	-11.877	-14.466	0.026	190.000	0.000
16.355		163.47	0.5	0.00	72.58	0.50	0.00	561.85	-11.845	-14.434	0.026	190.000	0.000
16.365		163.47	0.5	0.00	72.40	0.50	0.00	562.34	-11.812	-14.401	0.026	190.000	0.000
16.375		163.47	0.5	0.00	72.22	0.50	0.00	562.84	-11.780	-14.369	0.026	190.000	0.000
16.385		163.47	0.5	0.00	72.04	0.50	0.00	563.34	-11.747	-14.336	0.026	190.000	0.000
16.395		163.47	0.5	0.00	71.86	0.50	0.00	563.84	-11.715	-14.304	0.026	190.000	0.000
16.405		163.47	0.5	0.00	71.68	0.50	0.00	564.34	-11.683	-14.272	0.026	190.000	0.000
16.415		163.47	0.5	0.00	71.50	0.50	0.00	564.85	-11.651	-14.240	0.027	190.000	0.000
16.425		163.47	0.5	0.00	71.32	0.50	0.00	565.35	-11.619	-14.207	0.027	190.000	0.000
16.442		163.47	0.5	0.00	71.01	0.87	0.00	566.22	-11.586	-14.175	0.046	190.000	0.000
16.448	(Start of Curve)	163.47	0.5	0.00	70.90	0.29	0.00	566.52	-11.531	-14.120	0.016	190.000	0.000
16.458		163.47	0.5	0.00	70.72	0.51	0.00	567.02	-11.513	-14.102	0.027	190.000	0.000
16.468		163.47	0.5	0.00	70.54	0.51	0.00	567.53	-11.481	-14.070	0.027	190.000	0.000
16.478		163.47	0.5	0.00	70.36	0.51	0.00	568.04	-11.449	-14.038	0.027	190.000	0.000
16.488		163.47	0.5	0.00	70.18	0.51	0.00	568.56	-11.417	-14.006	0.027	190.000	0.000
16.498		163.47	0.5	0.00	70.00	0.51	0.00	569.07	-11.385	-13.974	0.027	190.000	0.000
16.508		163.47	0.5	0.00	69.82	0.51	0.00	569.59	-11.354	-13.942	0.027	190.000	0.000
16.518		163.47	0.5	0.00	69.64	0.52	0.00	570.10	-11.322	-13.911	0.027	190.000	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
16.528	(End of Curve)	163.47	0.5	0.00	69.45	0.52	0.00	570.62	-11.290	-13.879	0.027	190.000	0.000
16.538		163.47	0.5	0.00	69.27	0.52	0.00	571.14	-11.259	-13.848	0.027	190.000	0.000
16.548		163.47	0.5	0.00	69.09	0.52	0.00	571.66	-11.227	-13.816	0.027	190.000	0.000
16.558		163.47	0.5	0.00	68.91	0.52	0.00	572.18	-11.196	-13.785	0.028	190.000	0.000
16.568		163.47	0.5	0.00	68.73	0.52	0.00	572.70	-11.164	-13.753	0.028	190.000	0.000
16.578		163.47	0.5	0.00	68.54	0.52	0.00	573.23	-11.133	-13.722	0.028	190.000	0.000
16.588		163.47	0.5	0.00	68.36	0.53	0.00	573.75	-11.102	-13.691	0.028	190.000	0.000
16.598		163.47	0.5	0.00	68.18	0.53	0.00	574.28	-11.070	-13.659	0.028	190.000	0.000
16.608		163.47	0.5	0.00	68.00	0.53	0.00	574.81	-11.039	-13.628	0.028	190.000	0.000
16.618		163.47	0.5	0.00	67.81	0.53	0.00	575.34	-11.008	-13.597	0.028	190.000	0.000
16.628		163.47	0.5	0.00	67.63	0.53	0.00	575.87	-10.977	-13.566	0.028	190.000	0.000
16.639		163.47	0.5	0.00	67.43	0.59	0.00	576.46	-10.946	-13.535	0.031	190.000	0.000
16.649		163.47	0.5	0.00	67.25	0.53	0.00	576.99	-10.912	-13.501	0.028	190.000	0.000
16.659		163.47	0.5	0.00	67.06	0.54	0.00	577.53	-10.881	-13.470	0.028	190.000	0.000
16.669		163.47	0.5	0.00	66.88	0.54	0.00	578.07	-10.850	-13.439	0.028	190.000	0.000
16.679		163.47	0.5	0.00	66.69	0.54	0.00	578.61	-10.819	-13.408	0.028	190.000	0.000
16.689		163.47	0.5	0.00	66.51	0.54	0.00	579.15	-10.788	-13.377	0.029	190.000	0.000
16.699		163.47	0.5	0.00	66.33	0.54	0.00	579.69	-10.758	-13.346	0.029	190.000	0.000
16.703		163.47	0.5	0.00	66.25	0.22	0.00	579.91	-10.727	-13.316	0.011	190.000	0.000
16.713		163.47	0.5	0.00	66.07	0.54	0.00	580.45	-10.715	-13.303	0.029	190.000	0.000
16.723		163.47	0.5	0.00	65.88	0.55	0.00	580.99	-10.684	-13.273	0.029	190.000	0.000
16.733		163.47	0.5	0.00	65.70	0.55	0.00	581.54	-10.653	-13.242	0.029	190.000	0.000
16.743		163.47	0.5	0.00	65.51	0.55	0.00	582.09	-10.623	-13.212	0.029	190.000	0.000
16.753		163.47	0.5	0.00	65.33	0.55	0.00	582.64	-10.592	-13.181	0.029	190.000	0.000
16.765		163.47	0.5	0.00	65.10	0.69	0.00	583.33	-10.562	-13.151	0.036	190.000	0.000
16.775		163.47	0.5	0.00	64.91	0.55	0.00	583.88	-10.524	-13.113	0.029	190.000	0.000
16.785		163.47	0.5	0.00	64.73	0.56	0.00	584.44	-10.494	-13.083	0.029	190.000	0.000
16.798		163.47	0.5	0.00	64.49	0.70	0.00	585.14	-10.463	-13.052	0.037	190.000	0.000
16.808		163.47	2	0.00	64.01	0.56	0.00	585.70	-19.241	-29.596	0.030	190.000	0.000
16.818		163.47	2	0.00	63.52	0.56	0.00	586.26	-19.162	-29.518	0.030	190.000	0.000
16.825		163.47	2	0.00	63.18	0.40	0.00	586.66	-19.084	-29.440	0.021	190.000	0.000
16.842		163.47	0	0.00	63.04	0.95	0.00	587.61	-7.276	-7.276	0.050	190.000	0.000
16.845		163.47	0	0.00	63.01	0.19	0.00	587.80	-7.253	-7.253	0.010	190.000	0.000
16.855		163.47	0	0.00	62.92	0.57	0.00	588.37	-7.249	-7.249	0.030	190.000	0.000
16.865		163.47	0	0.00	62.84	0.57	0.00	588.94	-7.235	-7.235	0.030	190.000	0.000
16.875		163.47	0	0.00	62.75	0.57	0.00	589.52	-7.221	-7.221	0.030	190.000	0.000
16.885		163.47	0	0.00	62.66	0.57	0.00	590.09	-7.208	-7.208	0.030	190.000	0.000
16.895		163.47	0	0.00	62.58	0.57	0.00	590.67	-7.194	-7.194	0.030	190.000	0.000
16.905		163.47	0	0.00	62.49	0.58	0.00	591.24	-7.180	-7.180	0.030	190.000	0.000
16.924		163.47	0	0.00	62.33	1.11	0.00	592.35	-7.167	-7.167	0.058	190.000	0.000
16.925		163.47	0	-1.23	62.12	0.05	0.00	592.40	-36.022	28.897	0.000	0.000	0.044
16.935		163.47	0	-1.23	59.50	0.59	0.00	592.99	-35.912	29.007	0.000	0.000	0.539
16.945		163.47	0	-1.23	56.76	0.62	0.00	593.61	-35.710	29.210	0.000	0.000	0.539
16.955		163.47	0	-1.23	53.87	0.65	0.00	594.26	-35.506	29.413	0.000	0.000	0.538
16.965		163.47	0	-1.23	50.83	0.69	0.00	594.95	-35.302	29.618	0.000	0.000	0.538
16.975	163.47	0	-1.23	47.59	0.73	0.00	595.68	-35.096	29.824	0.000	0.000	0.536	
16.985	163.47	0	-1.23	44.11	0.79	0.00	596.46	-34.888	30.031	0.000	0.000	0.535	
16.995	163.47	0	-1.23	40.34	0.85	0.00	597.32	-34.679	30.241	0.000	0.000	0.532	
17.005	163.47	0	-1.23	36.17	0.94	0.00	598.26	-34.466	30.453	0.000	0.000	0.529	
17.015	163.47	0	-1.23	31.46	1.06	0.00	599.32	-34.250	30.670	0.000	0.000	0.524	
17.025	163.47	0	-1.23	25.90	1.26	0.00	600.58	-34.027	30.892	0.000	0.000	0.515	
17.035	163.47	0	-1.23	18.74	1.61	0.00	602.19	-33.848	31.179	0.000	0.000	0.498	
17.046	Sukhumvit	163.47	0	-1.23	0.00	4.22	30.00	636.41	-33.515	31.511	0.000	0.000	0.421
17.056		163.47	0	1.30	18.33	3.93	0.00	640.34	33.218	-35.214	0.834	764.943	0.000
17.066		163.47	0	1.30	25.93	1.63	0.00	641.97	32.888	-35.544	0.715	1581.835	0.000
17.076		163.47	0	1.30	31.75	1.25	0.00	643.22	32.642	-35.790	0.696	2007.819	0.000
17.086		163.47	0	1.30	36.68	1.05	0.00	644.27	32.498	-36.116	0.689	2356.757	0.000
17.096		163.47	0	1.11	40.40	0.93	0.00	645.20	27.192	-31.233	0.591	2278.434	0.000
17.106		163.47	0	0.97	43.39	0.86	0.00	646.06	23.307	-27.708	0.521	2182.545	0.000
17.116		163.47	0	0.97	46.19	0.80	0.00	646.87	23.142	-27.873	0.519	2324.272	0.000
17.126		163.47	0	0.86	48.53	0.76	0.00	647.63	20.095	-25.136	0.465	2202.038	0.000
17.136		163.47	0	0.86	50.77	0.73	0.00	648.35	19.951	-25.280	0.464	2303.351	0.000
17.140		163.47	0	0.77	51.55	0.28	0.00	648.63	17.552	-23.077	0.169	2156.489	0.000
17.150		163.47	-2	0.77	53.45	0.69	0.00	649.32	12.285	-17.989	0.327	1716.804	0.000
17.160		163.47	-2	0.77	55.28	0.66	0.00	649.98	12.157	-18.117	0.326	1774.989	0.000
17.170		163.47	-2	0.70	56.90	0.64	0.00	650.62	10.152	-16.356	0.292	1637.228	0.000
17.180		163.47	-2	0.70	58.47	0.62	0.00	651.25	10.037	-16.471	0.292	1681.989	0.000
17.190		163.47	-2	0.70	59.99	0.61	0.00	651.85	9.922	-16.586	0.291	1725.834	0.000
17.200		163.47	-2	0.70	61.49	0.59	0.00	652.45	9.807	-16.701	0.291	1768.840	0.000
17.210		163.47	-2	0.64	62.82	0.58	0.00	653.03	8.111	-15.224	0.262	1630.099	0.000
17.220		163.47	-2	0.64	64.12	0.57	0.00	653.59	8.006	-15.328	0.262	1664.301	0.000
17.230		163.47	-2	0.64	65.40	0.56	0.00	654.15	7.902	-15.432	0.262	1698.024	0.000
17.240		163.47	-2	0.59	66.55	0.55	0.00	654.70	6.461	-14.191	0.238	1569.293	0.000
17.250		163.47	-0.5	0.59	67.69	0.54	0.00	655.23	10.249	-18.170	0.308	2070.271	0.000
17.260		163.47	-0.5	0.59	68.80	0.53	0.00	655.76	10.154	-18.266	0.309	2105.406	0.000
17.270		163.47	-0.5	0.59	69.90	0.52	0.00	656.28	10.058	-18.361	0.309	2140.141	0.000
17.280		163.47	-0.5	0.59	70.98	0.51	0.00	656.79	9.963	-18.456	0.309	2174.498	0.000
17.290		163.47	-0.5	0.54	71.97	0.50	0.00	657.29	8.728	-17.404	0.288	2058.736	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
17.300		163.47	-0.5	0.54	72.94	0.50	0.00	657.79	8.640	-17.491	0.288	2087.897	0.000
17.310		163.47	-0.5	0.54	73.90	0.49	0.00	658.28	8.552	-17.579	0.288	2116.806	0.000
17.320		163.47	-0.5	0.54	74.85	0.48	0.00	658.76	8.464	-17.667	0.288	2145.475	0.000
17.330		163.47	-0.5	0.54	75.79	0.48	0.00	659.24	8.377	-17.755	0.289	2173.915	0.000
17.340		163.47	-0.5	0.48	76.60	0.47	0.00	659.71	6.560	-16.102	0.257	1960.322	0.000
17.350		163.47	-0.5	0.48	77.40	0.47	0.00	660.18	6.483	-16.179	0.257	1982.419	0.000
17.360		163.47	-0.5	0.48	78.20	0.46	0.00	660.64	6.406	-16.256	0.258	2004.386	0.000
17.370		163.47	-0.5	0.48	78.99	0.46	0.00	661.10	6.329	-16.332	0.258	2026.227	0.000
17.383		163.47	-0.5	0.48	80.00	0.58	0.00	661.69	6.242	-16.420	0.333	2051.071	0.000
17.393		163.47	-0.5	0.00	79.98	0.45	0.00	662.14	-7.339	-4.750	0.024	190.000	0.000
17.403		163.47	-0.5	0.00	79.96	0.45	0.00	662.59	-7.336	-4.747	0.024	190.000	0.000
17.413		163.47	-0.5	0.00	79.95	0.45	0.00	663.04	-7.333	-4.744	0.024	190.000	0.000
17.423		163.47	-0.5	0.00	79.93	0.45	0.00	663.49	-7.329	-4.740	0.024	190.000	0.000
17.433		163.47	-0.5	0.00	79.91	0.45	0.00	663.94	-7.326	-4.737	0.024	190.000	0.000
17.443		163.47	-0.5	0.00	79.89	0.45	0.00	664.39	-7.323	-4.734	0.024	190.000	0.000
17.453		163.47	-0.5	0.00	79.88	0.45	0.00	664.84	-7.319	-4.730	0.024	190.000	0.000
17.463		163.47	-0.5	0.00	79.86	0.45	0.00	665.29	-7.316	-4.727	0.024	190.000	0.000
17.473		163.47	-0.5	0.00	79.84	0.45	0.00	665.74	-7.313	-4.724	0.024	190.000	0.000
17.483		163.47	-0.5	0.00	79.83	0.45	0.00	666.19	-7.309	-4.720	0.024	190.000	0.000
17.493		163.47	-0.5	0.00	79.81	0.45	0.00	666.64	-7.306	-4.717	0.024	190.000	0.000
17.503		163.47	-0.5	0.00	79.79	0.45	0.00	667.09	-7.303	-4.714	0.024	190.000	0.000
17.513		163.47	-0.5	0.00	79.78	0.45	0.00	667.55	-7.299	-4.710	0.024	190.000	0.000
17.523		163.47	-0.5	0.00	79.76	0.45	0.00	668.00	-7.296	-4.707	0.024	190.000	0.000
17.533		163.47	-0.5	0.00	79.74	0.45	0.00	668.45	-7.293	-4.704	0.024	190.000	0.000
17.543		163.47	-0.5	0.00	79.73	0.45	0.00	668.90	-7.289	-4.701	0.024	190.000	0.000
17.553		163.47	-0.5	0.00	79.71	0.45	0.00	669.35	-7.286	-4.697	0.024	190.000	0.000
17.563		163.47	-0.5	0.00	79.69	0.45	0.00	669.80	-7.283	-4.694	0.024	190.000	0.000
17.573		163.47	-0.5	0.00	79.68	0.45	0.00	670.25	-7.280	-4.691	0.024	190.000	0.000
17.583		163.47	-0.5	0.00	79.66	0.45	0.00	670.71	-7.276	-4.688	0.024	190.000	0.000
17.593		163.47	-0.5	0.00	79.64	0.45	0.00	671.16	-7.273	-4.684	0.024	190.000	0.000
17.603		163.47	-0.5	0.00	79.63	0.45	0.00	671.61	-7.270	-4.681	0.024	190.000	0.000
17.613		163.47	-0.5	0.00	79.61	0.45	0.00	672.06	-7.267	-4.678	0.024	190.000	0.000
17.623		163.47	-0.5	0.00	79.60	0.45	0.00	672.52	-7.263	-4.675	0.024	190.000	0.000
17.633		163.47	-0.5	0.00	79.58	0.45	0.00	672.97	-7.260	-4.671	0.024	190.000	0.000
17.643		163.47	-0.5	0.00	79.56	0.45	0.00	673.42	-7.257	-4.668	0.024	190.000	0.000
17.653		163.47	-0.5	0.00	79.55	0.45	0.00	673.87	-7.254	-4.665	0.024	190.000	0.000
17.663		163.47	-0.5	0.00	79.53	0.45	0.00	674.32	-7.251	-4.662	0.024	190.000	0.000
17.673		163.47	-0.5	0.00	79.51	0.45	0.00	674.78	-7.247	-4.659	0.024	190.000	0.000
17.683		163.47	-0.5	0.00	79.50	0.45	0.00	675.23	-7.244	-4.655	0.024	190.000	0.000
17.693		163.47	-0.5	0.00	79.48	0.45	0.00	675.68	-7.241	-4.652	0.024	190.000	0.000
17.703		163.47	-0.5	0.00	79.47	0.45	0.00	676.14	-7.238	-4.649	0.024	190.000	0.000
17.713		163.47	-0.5	0.00	79.45	0.45	0.00	676.59	-7.235	-4.646	0.024	190.000	0.000
17.723		163.47	-0.5	0.00	79.43	0.45	0.00	677.04	-7.232	-4.643	0.024	190.000	0.000
17.733		163.47	-0.5	0.00	79.42	0.45	0.00	677.50	-7.228	-4.640	0.024	190.000	0.000
17.743		163.47	-0.5	0.00	79.40	0.45	0.00	677.95	-7.225	-4.636	0.024	190.000	0.000
17.753		163.47	-0.5	0.00	79.38	0.45	0.00	678.40	-7.222	-4.633	0.024	190.000	0.000
17.763		163.47	-0.5	0.00	79.37	0.45	0.00	678.86	-7.219	-4.630	0.024	190.000	0.000
17.773		163.47	-0.5	0.00	79.35	0.45	0.00	679.31	-7.216	-4.627	0.024	190.000	0.000
17.783		163.47	-0.5	0.00	79.34	0.45	0.00	679.76	-7.213	-4.624	0.024	190.000	0.000
17.793		163.47	-0.5	0.00	79.32	0.45	0.00	680.22	-7.209	-4.621	0.024	190.000	0.000
17.803		163.47	-0.5	0.00	79.31	0.45	0.00	680.67	-7.206	-4.618	0.024	190.000	0.000
17.808		163.47	-0.5	0.00	79.30	0.23	0.00	680.90	-7.203	-4.614	0.012	190.000	0.000
17.818		163.47	0.5	0.00	79.12	0.45	0.00	681.36	-13.078	-15.667	0.024	190.000	0.000
17.828		163.47	0.5	0.00	78.94	0.46	0.00	681.81	-13.044	-15.633	0.024	190.000	0.000
17.838		163.47	0.5	0.00	78.77	0.46	0.00	682.27	-13.009	-15.598	0.024	190.000	0.000
17.848		163.47	0.5	0.00	78.59	0.46	0.00	682.73	-12.975	-15.564	0.024	190.000	0.000
17.858		163.47	0.5	0.00	78.41	0.46	0.00	683.19	-12.941	-15.529	0.024	190.000	0.000
17.868		163.47	0.5	0.00	78.24	0.46	0.00	683.65	-12.906	-15.495	0.024	190.000	0.000
17.878		163.47	0.5	0.00	78.06	0.46	0.00	684.11	-12.872	-15.461	0.024	190.000	0.000
17.888		163.47	0.5	0.00	77.88	0.46	0.00	684.57	-12.838	-15.427	0.024	190.000	0.000
17.898		163.47	0.5	0.00	77.71	0.46	0.00	685.03	-12.804	-15.392	0.024	190.000	0.000
17.908		163.47	0.5	0.00	77.53	0.46	0.00	685.49	-12.769	-15.358	0.024	190.000	0.000
17.918		163.47	0.5	0.00	77.35	0.46	0.00	685.96	-12.735	-15.324	0.025	190.000	0.000
17.928		163.47	0.5	0.00	77.18	0.47	0.00	686.42	-12.701	-15.290	0.025	190.000	0.000
17.938		163.47	0.5	0.00	77.00	0.47	0.00	686.89	-12.668	-15.256	0.025	190.000	0.000
17.948		163.47	0.5	0.00	76.82	0.47	0.00	687.36	-12.634	-15.223	0.025	190.000	0.000
17.958		163.47	0.5	0.00	76.64	0.47	0.00	687.83	-12.600	-15.189	0.025	190.000	0.000
17.968		163.47	0.5	0.00	76.47	0.47	0.00	688.30	-12.566	-15.155	0.025	190.000	0.000
17.978		163.47	0.5	0.00	76.29	0.47	0.00	688.77	-12.532	-15.121	0.025	190.000	0.000
17.988		163.47	0.5	0.00	76.11	0.47	0.00	689.24	-12.499	-15.088	0.025	190.000	0.000
17.998		163.47	0.5	0.00	75.93	0.47	0.00	689.72	-12.465	-15.054	0.025	190.000	0.000
18.008		163.47	0.5	0.00	75.76	0.47	0.00	690.19	-12.432	-15.021	0.025	190.000	0.000
18.018		163.47	0.5	0.00	75.58	0.48	0.00	690.67	-12.398	-14.987	0.025	190.000	0.000
18.028		163.47	0.5	0.00	75.40	0.48	0.00	691.14	-12.365	-14.954	0.025	190.000	0.000
18.038		163.47	0.5	0.00	75.22	0.48	0.00	691.62	-12.332	-14.920	0.025	190.000	0.000
18.048		163.47	0.5	0.00	75.04	0.48	0.00	692.10	-12.298	-14.887	0.025	190.000	0.000
18.058		163.47	0.5	0.00	74.87	0.48	0.00	692.58	-12.265	-14.854	0.025	190.000	0.000
18.068		163.47	0.5	0.00	74.69	0.48	0.00	693.06	-12.232	-14.821	0.025	190.000	0.000

Simulation(Coasting)

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Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
18.078		163.47	0.5	0.00	74.51	0.48	0.00	693.55	-12.199	-14.788	0.025	190.000	0.000
18.088		163.47	0.5	0.00	74.33	0.48	0.00	694.03	-12.166	-14.754	0.026	190.000	0.000
18.095		163.47	0.5	0.00	74.21	0.34	0.00	694.37	-12.133	-14.721	0.018	190.000	0.000
18.105		163.47	2	0.00	73.77	0.49	0.00	694.85	-20.925	-31.280	0.026	190.000	0.000
18.115		163.47	2	0.00	73.33	0.49	0.00	695.34	-20.844	-31.200	0.026	190.000	0.000
18.125		163.47	2	0.00	72.89	0.49	0.00	695.84	-20.764	-31.119	0.026	190.000	0.000
18.135		163.47	2	0.00	72.45	0.50	0.00	696.33	-20.684	-31.039	0.026	190.000	0.000
18.148		163.47	2	0.00	71.86	0.65	0.00	696.99	-20.604	-30.959	0.035	190.000	0.000
18.158		163.47	2	0.00	71.42	0.50	0.00	697.49	-20.499	-30.854	0.027	190.000	0.000
18.168		163.47	2	0.00	70.97	0.51	0.00	697.99	-20.419	-30.775	0.027	190.000	0.000
18.178		163.47	2	0.00	70.52	0.51	0.00	698.50	-20.340	-30.695	0.027	190.000	0.000
18.195		163.47	2	0.00	69.75	0.87	0.00	699.37	-20.260	-30.615	0.046	190.000	0.000
18.200		163.47	0	0.00	69.71	0.24	0.00	699.61	-8.372	-8.372	0.013	190.000	0.000
18.205		163.47	0	-1.23	68.47	0.28	0.00	699.89	-36.588	28.331	0.000	0.000	0.290
18.215		163.47	0	-1.23	66.10	0.54	0.00	700.42	-36.434	28.485	0.000	0.000	0.539
18.225		163.47	0	-1.23	63.64	0.55	0.00	700.98	-36.234	28.685	0.000	0.000	0.539
18.235		163.47	0	-1.23	61.09	0.58	0.00	701.56	-36.033	28.886	0.000	0.000	0.539
18.245		163.47	0	-1.23	58.42	0.60	0.00	702.16	-35.831	29.088	0.000	0.000	0.539
18.255		163.47	0	-1.23	55.62	0.63	0.00	702.79	-35.629	29.291	0.000	0.000	0.539
18.265		163.47	0	-1.23	52.68	0.66	0.00	703.46	-35.425	29.495	0.000	0.000	0.538
18.275		163.47	0	-1.23	49.56	0.70	0.00	704.16	-35.220	29.700	0.000	0.000	0.537
18.285		163.47	0	-1.23	46.23	0.75	0.00	704.91	-35.013	29.906	0.000	0.000	0.536
18.295		163.47	0	-1.23	42.65	0.81	0.00	705.72	-34.805	30.115	0.000	0.000	0.534
18.305		163.47	0	-1.23	38.73	0.88	0.00	706.61	-34.594	30.325	0.000	0.000	0.531
18.315		163.47	0	-1.23	34.37	0.99	0.00	707.59	-34.380	30.539	0.000	0.000	0.527
18.325		163.47	0	-1.23	29.36	1.13	0.00	708.72	-34.162	30.757	0.000	0.000	0.521
18.335		163.47	0	-1.23	23.30	1.37	0.00	710.09	-33.989	31.037	0.000	0.000	0.510
18.345		163.47	0	-1.23	14.95	1.88	0.00	711.97	-33.748	31.278	0.000	0.000	0.484
18.352	Petchaburi	163.47	0	-1.23	0.00	3.37	30.00	745.34	-33.482	31.544	0.000	0.000	0.232
18.362		163.47	0	1.30	18.33	3.93	0.00	749.27	33.218	-35.214	0.834	764.869	0.000
18.372		163.47	0	1.30	25.93	1.63	0.00	750.89	32.888	-35.544	0.715	1581.835	0.000
18.382		163.47	0	1.30	31.75	1.25	0.00	752.14	32.642	-35.790	0.696	2007.819	0.000
18.392		163.47	0	1.30	36.68	1.05	0.00	753.20	32.498	-36.116	0.689	2356.757	0.000
18.402		163.47	0	1.11	40.40	0.93	0.00	754.13	27.192	-31.233	0.591	2278.434	0.000
18.412		163.47	0	0.97	43.39	0.86	0.00	754.99	23.307	-27.708	0.521	2182.545	0.000
18.422		163.47	0	0.97	46.19	0.80	0.00	755.79	23.142	-27.873	0.519	2324.272	0.000
18.432		163.47	0	0.86	48.53	0.76	0.00	756.55	20.095	-25.136	0.465	2202.038	0.000
18.445		163.47	0	0.86	51.42	0.94	0.00	757.49	19.930	-25.301	0.603	2317.813	0.000
18.455		163.47	-2	0.77	53.33	0.69	0.00	758.18	12.293	-17.980	0.327	1712.904	0.000
18.465		163.47	-2	0.77	55.16	0.66	0.00	758.84	12.165	-18.108	0.327	1771.198	0.000
18.475		163.47	-2	0.70	56.78	0.64	0.00	759.48	10.161	-16.348	0.292	1633.933	0.000
18.485		163.47	-2	0.70	58.35	0.63	0.00	760.11	10.045	-16.463	0.292	1678.764	0.000
18.495		163.47	-2	0.70	59.89	0.61	0.00	760.72	9.930	-16.578	0.291	1722.673	0.000
18.505		163.47	-2	0.70	61.38	0.59	0.00	761.31	9.816	-16.693	0.291	1765.738	0.000
18.515		163.47	-2	0.64	62.71	0.58	0.00	761.89	8.119	-15.215	0.262	1627.355	0.000
18.525		163.47	-2	0.64	64.02	0.57	0.00	762.46	8.014	-15.320	0.262	1661.596	0.000
18.535		163.47	-2	0.64	65.30	0.56	0.00	763.02	7.910	-15.424	0.262	1695.356	0.000
18.545		163.47	-2	0.59	66.45	0.55	0.00	763.56	6.470	-14.183	0.238	1566.901	0.000
18.555		163.47	-2	0.59	67.59	0.54	0.00	764.10	6.374	-14.279	0.238	1594.412	0.000
18.566		163.47	-2	0.59	68.82	0.58	0.00	764.68	6.274	-14.379	0.262	1622.976	0.000
18.576		163.47	0.75	0.59	69.91	0.52	0.00	765.20	13.288	-21.593	0.367	2547.741	0.000
18.586		163.47	0.75	0.59	70.99	0.51	0.00	765.71	13.193	-21.688	0.367	2588.486	0.000
18.596		163.47	0.75	0.54	71.98	0.50	0.00	766.21	11.957	-20.636	0.347	2478.756	0.000
18.606		163.47	0.75	0.54	72.95	0.50	0.00	766.71	11.870	-20.724	0.347	2513.664	0.000
18.616		163.47	0.75	0.54	73.91	0.49	0.00	767.20	11.782	-20.811	0.347	2548.244	0.000
18.626		163.47	0.75	0.54	74.86	0.48	0.00	767.69	11.694	-20.899	0.347	2582.510	0.000
18.636		163.47	0.75	0.54	75.80	0.48	0.00	768.16	11.607	-20.987	0.347	2616.476	0.000
18.646		163.47	0.75	0.48	76.61	0.47	0.00	768.64	9.789	-19.334	0.316	2407.973	0.000
18.656		163.47	0.75	0.48	77.42	0.47	0.00	769.10	9.713	-19.411	0.316	2434.818	0.000
18.666		163.47	0.75	0.48	78.21	0.46	0.00	769.57	9.636	-19.488	0.316	2461.484	0.000
18.676		163.47	0.75	0.48	79.00	0.46	0.00	770.02	9.559	-19.565	0.317	2487.976	0.000
18.689		163.47	0.75	0.48	80.00	0.58	0.00	770.60	9.472	-19.652	0.405	2517.928	0.000
18.699		163.47	0.75	0.00	79.78	0.45	0.00	771.05	-14.674	-18.547	0.024	190.000	0.000
18.709		163.47	0.75	0.00	79.57	0.45	0.00	771.50	-14.632	-18.504	0.024	190.000	0.000
18.719		163.47	0.75	0.00	79.35	0.45	0.00	771.96	-14.589	-18.462	0.024	190.000	0.000
18.729		163.47	0.75	0.00	79.14	0.45	0.00	772.41	-14.547	-18.419	0.024	190.000	0.000
18.739		163.47	0.75	0.00	78.92	0.46	0.00	772.87	-14.504	-18.377	0.024	190.000	0.000
18.749		163.47	0.75	0.00	78.70	0.46	0.00	773.32	-14.462	-18.335	0.024	190.000	0.000
18.759		163.47	0.75	0.00	78.49	0.46	0.00	773.78	-14.420	-18.293	0.024	190.000	0.000
18.769		163.47	0.75	0.00	78.27	0.46	0.00	774.24	-14.378	-18.250	0.024	190.000	0.000
18.779		163.47	0.75	0.00	78.05	0.46	0.00	774.70	-14.335	-18.208	0.024	190.000	0.000
18.789		163.47	0.75	0.00	77.83	0.46	0.00	775.16	-14.293	-18.166	0.024	190.000	0.000
18.799		163.47	0.75	0.00	77.62	0.46	0.00	775.63	-14.251	-18.124	0.024	190.000	0.000
18.809		163.47	0.75	0.00	77.40	0.46	0.00	776.09	-14.210	-18.083	0.025	190.000	0.000
18.819		163.47	0.75	0.00	77.18	0.47	0.00	776.56	-14.168	-18.041	0.025	190.000	0.000
18.829		163.47	0.75	0.00	76.96	0.47	0.00	777.02	-14.126	-17.999	0.025	190.000	0.000
18.839		163.47	0.75	0.00	76.74	0.47	0.00	777.49	-14.084	-17.957	0.025	190.000	0.000
18.849		163.47	0.75	0.00	76.53	0.47	0.00	777.96	-14.043	-17.916	0.025	190.000	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
18.859		163.47	0.75	0.00	76.31	0.47	0.00	778.43	-14.001	-17.874	0.025	190.000	0.000
18.869		163.47	0.75	0.00	76.09	0.47	0.00	778.91	-13.960	-17.833	0.025	190.000	0.000
18.879		163.47	0.75	0.00	75.87	0.47	0.00	779.38	-13.918	-17.791	0.025	190.000	0.000
18.889		163.47	0.75	0.00	75.65	0.48	0.00	779.86	-13.877	-17.750	0.025	190.000	0.000
18.899		163.47	0.75	0.00	75.43	0.48	0.00	780.33	-13.836	-17.709	0.025	190.000	0.000
18.909		163.47	0.75	0.00	75.21	0.48	0.00	780.81	-13.795	-17.667	0.025	190.000	0.000
18.919		163.47	0.75	0.00	74.99	0.48	0.00	781.29	-13.753	-17.626	0.025	190.000	0.000
18.929		163.47	0.75	0.00	74.77	0.48	0.00	781.77	-13.712	-17.585	0.025	190.000	0.000
18.939		163.47	0.75	0.00	74.55	0.48	0.00	782.25	-13.671	-17.544	0.025	190.000	0.000
18.949		163.47	0.75	0.00	74.33	0.48	0.00	782.74	-13.630	-17.503	0.026	190.000	0.000
18.959		163.47	0.75	0.00	74.11	0.49	0.00	783.22	-13.590	-17.462	0.026	190.000	0.000
18.969		163.47	0.75	0.00	73.89	0.49	0.00	783.71	-13.549	-17.422	0.026	190.000	0.000
18.979		163.47	0.75	0.00	73.66	0.49	0.00	784.20	-13.508	-17.381	0.026	190.000	0.000
18.989		163.47	0.75	0.00	73.44	0.49	0.00	784.69	-13.467	-17.340	0.026	190.000	0.000
18.999		163.47	0.75	0.00	73.22	0.49	0.00	785.18	-13.427	-17.300	0.026	190.000	0.000
19.009		163.47	0.75	0.00	73.00	0.49	0.00	785.67	-13.386	-17.259	0.026	190.000	0.000
19.019		163.47	0.75	0.00	72.77	0.49	0.00	786.16	-13.346	-17.219	0.026	190.000	0.000
19.029		163.47	0.75	0.00	72.55	0.50	0.00	786.66	-13.305	-17.178	0.026	190.000	0.000
19.039		163.47	0.75	0.00	72.33	0.50	0.00	787.15	-13.265	-17.138	0.026	190.000	0.000
19.049		163.47	0.75	0.00	72.10	0.50	0.00	787.65	-13.225	-17.098	0.026	190.000	0.000
19.059		163.47	0.75	0.00	71.88	0.50	0.00	788.15	-13.184	-17.057	0.026	190.000	0.000
19.074		163.47	0.75	0.00	71.53	0.78	0.00	788.93	-13.144	-17.017	0.041	190.000	0.000
19.084		163.47	0.75	0.00	71.31	0.50	0.00	789.43	-13.082	-16.955	0.027	190.000	0.000
19.094		163.47	0.75	0.00	71.09	0.51	0.00	789.94	-13.042	-16.915	0.027	190.000	0.000
19.099		163.47	0.75	0.00	70.97	0.25	0.00	790.19	-13.002	-16.875	0.013	190.000	0.000
19.103		163.47	0.75	0.00	70.89	0.19	0.00	790.38	-12.983	-16.855	0.010	190.000	0.000
19.121		163.47	0	0.00	70.72	0.92	0.00	791.31	-8.572	-8.572	0.049	190.000	0.000
19.123		163.47	0	-1.23	70.31	0.09	0.00	791.40	-36.713	28.207	0.000	0.000	0.099
19.133		163.47	0	-1.23	68.00	0.52	0.00	791.92	-36.594	28.326	0.000	0.000	0.539
19.143		163.47	0	-1.23	65.61	0.54	0.00	792.46	-36.394	28.525	0.000	0.000	0.539
19.153		163.47	0	-1.23	63.14	0.56	0.00	793.02	-36.194	28.726	0.000	0.000	0.539
19.163		163.47	0	-1.23	60.56	0.58	0.00	793.60	-35.993	28.927	0.000	0.000	0.539
19.173		163.47	0	-1.23	57.87	0.61	0.00	794.21	-35.791	29.129	0.000	0.000	0.539
19.183		163.47	0	-1.23	55.05	0.64	0.00	794.85	-35.588	29.332	0.000	0.000	0.539
19.193		163.47	0	-1.23	52.07	0.67	0.00	795.52	-35.384	29.536	0.000	0.000	0.538
19.203		163.47	0	-1.23	48.91	0.71	0.00	796.23	-35.179	29.741	0.000	0.000	0.537
19.213		163.47	0	-1.23	45.54	0.76	0.00	796.99	-34.972	29.948	0.000	0.000	0.535
19.223		163.47	0	-1.23	41.89	0.82	0.00	797.82	-34.763	30.157	0.000	0.000	0.533
19.233		163.47	0	-1.23	37.89	0.90	0.00	798.72	-34.552	30.368	0.000	0.000	0.530
19.243		163.47	0	-1.23	33.42	1.01	0.00	799.73	-34.337	30.582	0.000	0.000	0.526
19.253		163.47	0	-1.23	28.26	1.17	0.00	800.90	-34.117	30.802	0.000	0.000	0.519
19.263		163.47	0	-1.23	21.89	1.44	0.00	802.33	-33.943	31.083	0.000	0.000	0.507
19.278	Rama IX	163.47	0	-1.23	0.00	4.93	30.00	837.27	-33.545	31.481	0.000	0.000	0.617
19.288		163.47	0	1.30	18.33	3.93	0.00	841.19	33.218	-35.214	0.834	764.931	0.000
19.298		163.47	0	1.30	25.93	1.63	0.00	842.82	32.888	-35.544	0.715	1581.835	0.000
19.308		163.47	0	1.30	31.75	1.25	0.00	844.07	32.642	-35.790	0.696	2007.819	0.000
19.318		163.47	0	1.30	36.68	1.05	0.00	845.12	32.498	-36.116	0.689	2356.757	0.000
19.328		163.47	0	1.11	40.40	0.93	0.00	846.06	27.192	-31.233	0.591	2278.434	0.000
19.338		163.47	0	0.97	43.39	0.86	0.00	846.91	23.307	-27.708	0.521	2182.545	0.000
19.348		163.47	0	0.97	46.19	0.80	0.00	847.72	23.142	-27.873	0.519	2324.272	0.000
19.358		163.47	0	0.86	48.53	0.76	0.00	848.48	20.095	-25.136	0.465	2202.038	0.000
19.368		163.47	0	0.86	50.77	0.73	0.00	849.20	19.951	-25.280	0.464	2303.351	0.000
19.378		163.47	0	0.77	52.70	0.70	0.00	849.90	17.514	-23.115	0.421	2179.655	0.000
19.388		163.47	0	0.77	54.56	0.67	0.00	850.57	17.386	-23.243	0.421	2256.335	0.000
19.398		163.47	0	0.77	56.36	0.65	0.00	851.22	17.258	-23.371	0.420	2330.769	0.000
19.408		163.47	0	0.70	57.94	0.63	0.00	851.85	15.254	-21.610	0.386	2204.476	0.000
19.418		163.47	0	0.70	59.48	0.61	0.00	852.46	15.139	-21.725	0.386	2263.323	0.000
19.428		163.47	0	0.70	60.98	0.60	0.00	853.06	15.024	-21.840	0.385	2320.924	0.000
19.438		163.47	0	0.64	62.33	0.58	0.00	853.64	13.327	-20.363	0.356	2197.234	0.000
19.448		163.47	0	0.64	63.64	0.57	0.00	854.22	13.223	-20.467	0.356	2244.109	0.000
19.458		163.47	0	0.64	64.93	0.56	0.00	854.78	13.118	-20.571	0.356	2290.235	0.000
19.468		163.47	0	0.64	66.19	0.55	0.00	855.33	13.014	-20.675	0.356	2335.661	0.000
19.478		163.47	0	0.59	67.33	0.54	0.00	855.86	11.574	-19.434	0.332	2216.060	0.000
19.488		163.47	0	0.59	68.45	0.53	0.00	856.40	11.478	-19.530	0.332	2253.986	0.000
19.498		163.47	0	0.59	69.55	0.52	0.00	856.92	11.383	-19.625	0.332	2291.461	0.000
19.508		163.47	0	0.59	70.64	0.51	0.00	857.43	11.288	-19.720	0.332	2328.510	0.000
19.518		163.47	0	0.54	71.63	0.51	0.00	857.94	10.052	-18.668	0.312	2215.999	0.000
19.528		163.47	0	0.54	72.61	0.50	0.00	858.44	9.964	-18.756	0.312	2247.564	0.000
19.538		163.47	0	0.54	73.57	0.49	0.00	858.93	9.877	-18.844	0.312	2278.842	0.000
19.548		163.47	0	0.54	74.53	0.49	0.00	859.41	9.789	-18.931	0.312	2309.846	0.000
19.558		163.47	0	0.54	75.47	0.48	0.00	859.89	9.701	-19.019	0.312	2340.589	0.000
19.568		163.47	0	0.48	76.28	0.47	0.00	860.37	7.884	-17.367	0.281	2130.129	0.000
19.578		163.47	0	0.48	77.09	0.47	0.00	860.84	7.807	-17.443	0.281	2154.190	0.000
19.589		163.47	0	0.48	77.97	0.51	0.00	861.35	7.727	-17.524	0.309	2179.283	0.000
19.599		163.47	-3.47	0.48	78.76	0.46	0.00	861.81	-1.327	-8.632	0.118	926.766	0.000
19.615		163.47	-3.47	0.48	80.00	0.72	0.00	862.53	-1.426	-8.731	0.187	940.643	0.000
19.625		163.47	-3.47	0.00	80.00	0.45	0.00	862.98	-14.112	3.834	0.000	0.000	0.110
19.635		163.47	-3.47	0.00	80.00	0.45	0.00	863.43	-14.112	3.834	0.000	0.000	0.111

Simulation(Coasting)

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Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
19.645		163.47	-3.47	0.00	80.00	0.45	0.00	863.88	-14.112	3.834	0.000	0.000	0.111
19.655		163.47	-3.47	0.00	80.00	0.45	0.00	864.33	-14.112	3.834	0.000	0.000	0.111
19.665		163.47	-3.47	0.00	80.00	0.45	0.00	864.78	-14.112	3.834	0.000	0.000	0.111
19.675		163.47	-3.47	0.00	80.00	0.45	0.00	865.23	-14.112	3.834	0.000	0.000	0.111
19.685		163.47	-3.47	0.00	80.00	0.45	0.00	865.68	-14.112	3.834	0.000	0.000	0.111
19.695		163.47	-3.47	0.00	80.00	0.45	0.00	866.13	-14.112	3.834	0.000	0.000	0.111
19.705		163.47	-3.47	0.00	80.00	0.45	0.00	866.58	-14.112	3.834	0.000	0.000	0.111
19.715		163.47	-3.47	0.00	80.00	0.45	0.00	867.03	-14.112	3.834	0.000	0.000	0.111
19.725		163.47	-3.47	0.00	80.00	0.45	0.00	867.48	-14.112	3.834	0.000	0.000	0.111
19.735		163.47	-3.47	0.00	80.00	0.45	0.00	867.93	-14.112	3.834	0.000	0.000	0.111
19.745		163.47	-3.47	0.00	80.00	0.45	0.00	868.38	-14.112	3.834	0.000	0.000	0.111
19.755		163.47	-3.47	0.00	80.00	0.45	0.00	868.83	-14.112	3.834	0.000	0.000	0.111
19.765		163.47	-3.47	0.00	80.00	0.45	0.00	869.28	-14.112	3.834	0.000	0.000	0.111
19.775		163.47	-3.47	0.00	80.00	0.45	0.00	869.73	-14.112	3.834	0.000	0.000	0.111
19.785		163.47	-3.47	0.00	80.00	0.45	0.00	870.18	-14.112	3.834	0.000	0.000	0.111
19.795		163.47	-3.47	0.00	80.00	0.45	0.00	870.63	-14.112	3.834	0.000	0.000	0.111
19.805		163.47	-3.47	0.00	80.00	0.45	0.00	871.08	-14.112	3.834	0.000	0.000	0.111
19.815		163.47	-3.47	0.00	80.00	0.45	0.00	871.53	-14.112	3.834	0.000	0.000	0.111
19.825		163.47	-3.47	0.00	80.00	0.45	0.00	871.98	-14.112	3.834	0.000	0.000	0.111
19.835		163.47	-3.47	0.00	80.00	0.45	0.00	872.43	-14.112	3.834	0.000	0.000	0.111
19.845		163.47	-3.47	0.00	80.00	0.45	0.00	872.88	-14.112	3.834	0.000	0.000	0.111
19.855		163.47	-3.47	0.00	80.00	0.45	0.00	873.33	-14.112	3.834	0.000	0.000	0.111
19.865		163.47	-3.47	0.00	80.00	0.45	0.00	873.78	-14.112	3.834	0.000	0.000	0.111
19.866		163.47	-3.47	0.00	80.00	0.05	0.00	873.83	-14.112	3.834	0.000	0.000	0.013
19.876		163.47	2.84	0.00	79.45	0.45	0.00	874.28	-26.986	-41.706	0.024	190.000	0.000
19.886		163.47	2.84	0.00	78.90	0.45	0.00	874.74	-26.877	-41.598	0.024	190.000	0.000
19.896		163.47	2.84	0.00	78.34	0.46	0.00	875.19	-26.769	-41.489	0.024	190.000	0.000
19.906		163.47	2.84	0.00	77.78	0.46	0.00	875.65	-26.661	-41.381	0.024	190.000	0.000
19.916		163.47	2.84	0.00	77.22	0.46	0.00	876.12	-26.553	-41.273	0.025	190.000	0.000
19.926		163.47	2.84	0.00	76.66	0.47	0.00	876.59	-26.445	-41.165	0.025	190.000	0.000
19.936		163.47	2.84	0.00	76.09	0.47	0.00	877.06	-26.337	-41.058	0.025	190.000	0.000
19.946		163.47	2.84	0.00	75.52	0.47	0.00	877.53	-26.230	-40.950	0.025	190.000	0.000
19.956		163.47	2.84	0.00	74.94	0.48	0.00	878.01	-26.122	-40.843	0.025	190.000	0.000
19.966		163.47	2.84	0.00	74.36	0.48	0.00	878.49	-26.015	-40.735	0.025	190.000	0.000
19.976		163.47	2.84	0.00	73.78	0.49	0.00	878.98	-25.908	-40.628	0.026	190.000	0.000
19.986		163.47	2.84	0.00	73.20	0.49	0.00	879.47	-25.801	-40.521	0.026	190.000	0.000
19.996		163.47	2.84	0.00	72.61	0.49	0.00	879.96	-25.694	-40.414	0.026	190.000	0.000
20.006		163.47	2.84	0.00	72.02	0.50	0.00	880.46	-25.587	-40.307	0.026	190.000	0.000
20.016		163.47	2.84	0.00	71.42	0.50	0.00	880.96	-25.481	-40.201	0.026	190.000	0.000
20.026		163.47	2.84	0.00	70.82	0.51	0.00	881.47	-25.374	-40.094	0.027	190.000	0.000
20.036		163.47	2.84	0.00	70.22	0.51	0.00	881.98	-25.268	-39.988	0.027	190.000	0.000
20.046		163.47	2.84	0.00	69.61	0.51	0.00	882.49	-25.161	-39.882	0.027	190.000	0.000
20.056		163.47	2.84	0.00	69.00	0.52	0.00	883.01	-25.055	-39.775	0.027	190.000	0.000
20.066		163.47	2.84	0.00	68.38	0.52	0.00	883.54	-24.949	-39.669	0.028	190.000	0.000
20.076		163.47	2.84	0.00	67.76	0.53	0.00	884.07	-24.843	-39.563	0.028	190.000	0.000
20.086		163.47	2.84	0.00	67.14	0.53	0.00	884.60	-24.737	-39.458	0.028	190.000	0.000
20.096		163.47	2.84	0.00	66.51	0.54	0.00	885.14	-24.632	-39.352	0.028	190.000	0.000
20.106		163.47	2.84	0.00	65.87	0.54	0.00	885.68	-24.526	-39.246	0.029	190.000	0.000
20.116		163.47	2.84	0.00	65.23	0.55	0.00	886.23	-24.420	-39.141	0.029	190.000	0.000
20.126		163.47	2.84	0.00	64.59	0.55	0.00	886.79	-24.315	-39.035	0.029	190.000	0.000
20.136		163.47	2.84	0.00	63.94	0.56	0.00	887.35	-24.210	-38.930	0.030	190.000	0.000
20.146		163.47	2.84	0.00	63.28	0.57	0.00	887.91	-24.105	-38.825	0.030	190.000	0.000
20.156		163.47	2.84	0.00	62.62	0.57	0.00	888.49	-24.000	-38.720	0.030	190.000	0.000
20.169		163.47	2.84	0.00	61.75	0.75	0.00	889.24	-23.895	-38.615	0.040	190.000	0.000
20.179		163.47	0	0.00	61.67	0.58	0.00	889.82	-7.051	-7.051	0.031	190.000	0.000
20.189		163.47	0	0.00	61.58	0.58	0.00	890.41	-7.037	-7.037	0.031	190.000	0.000
20.199		163.47	0	0.00	61.49	0.59	0.00	890.99	-7.024	-7.024	0.031	190.000	0.000
20.209		163.47	0	0.00	61.41	0.59	0.00	891.58	-7.011	-7.011	0.031	190.000	0.000
20.219		163.47	0	0.00	61.32	0.59	0.00	892.16	-6.997	-6.997	0.031	190.000	0.000
20.229		163.47	0	0.00	61.24	0.59	0.00	892.75	-6.984	-6.984	0.031	190.000	0.000
20.245		163.47	0	0.00	61.10	0.92	0.00	893.67	-6.971	-6.971	0.049	190.000	0.000
20.249		163.47	0	0.00	61.07	0.26	0.00	893.93	-6.950	-6.950	0.014	190.000	0.000
20.259		163.47	0	0.00	60.98	0.59	0.00	894.52	-6.944	-6.944	0.031	190.000	0.000
20.269		163.47	0	0.00	60.90	0.59	0.00	895.11	-6.931	-6.931	0.031	190.000	0.000
20.279		163.47	0	0.00	60.81	0.59	0.00	895.70	-6.918	-6.918	0.031	190.000	0.000
20.289		163.47	0	0.00	60.73	0.59	0.00	896.29	-6.905	-6.905	0.031	190.000	0.000
20.299		163.47	0	0.00	60.64	0.59	0.00	896.89	-6.892	-6.892	0.031	190.000	0.000
20.309		163.47	0	0.00	60.55	0.59	0.00	897.48	-6.879	-6.879	0.031	190.000	0.000
20.319		163.47	0	0.00	60.47	0.59	0.00	898.08	-6.865	-6.865	0.031	190.000	0.000
20.335		163.47	0	0.00	60.33	0.94	0.00	899.02	-6.852	-6.852	0.050	190.000	0.000
20.339		163.47	0	-1.23	59.23	0.25	0.00	899.27	-35.834	29.086	0.000	0.000	0.224
20.349		163.47	0	-1.23	56.47	0.62	0.00	899.89	-35.689	29.230	0.000	0.000	0.539
20.359		163.47	0	-1.23	53.58	0.65	0.00	900.55	-35.486	29.434	0.000	0.000	0.538
20.369		163.47	0	-1.23	50.51	0.69	0.00	901.24	-35.281	29.638	0.000	0.000	0.536
20.379		163.47	0	-1.23	47.25	0.74	0.00	901.97	-35.075	29.844	0.000	0.000	0.535
20.389		163.47	0	-1.23	43.75	0.79	0.00	902.77	-34.867	30.052	0.000	0.000	0.532
20.399		163.47	0	-1.23	39.94	0.86	0.00	903.63	-34.657	30.262	0.000	0.000	0.528
20.409		163.47	0	-1.23	35.73	0.95	0.00	904.58	-34.445	30.475	0.000	0.000	0.528

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
20.419	Thiam Ruam Mit	163.47	0	-1.23	30.94	1.08	0.00	905.66	-34.228	30.692	0.000	0.000	0.523
20.429		163.47	0	-1.23	25.27	1.28	0.00	906.94	-34.005	30.915	0.000	0.000	0.514
20.439		163.47	0	-1.23	17.87	1.67	0.00	908.61	-33.823	31.203	0.000	0.000	0.495
20.449		163.47	0	-1.23	0.00	4.03	30.00	942.64	-33.507	31.519	0.000	0.000	0.373
20.459		163.47	0	1.30	18.33	3.93	0.00	946.56	33.218	-35.214	0.834	764.902	0.000
20.469	163.47	0	1.30	25.93	1.63	0.00	948.19	32.888	-35.544	0.715	1581.835	0.000	
20.479	163.47	0	1.30	31.75	1.25	0.00	949.44	32.642	-35.790	0.696	2007.819	0.000	
20.489	163.47	0	1.30	36.68	1.05	0.00	950.49	32.498	-36.116	0.689	2356.757	0.000	
20.499	163.47	0	1.11	40.40	0.93	0.00	951.42	27.192	-31.233	0.591	2278.434	0.000	
20.509	163.47	0	0.97	43.39	0.86	0.00	952.28	23.307	-27.708	0.521	2182.545	0.000	
20.519	163.47	0	0.97	46.19	0.80	0.00	953.09	23.142	-27.873	0.519	2324.272	0.000	
20.529	163.47	0	0.86	48.53	0.76	0.00	953.85	20.095	-25.136	0.465	2202.038	0.000	
20.539	163.47	0	0.86	50.77	0.73	0.00	954.57	19.951	-25.280	0.464	2303.351	0.000	
20.549	163.47	0	0.77	52.70	0.70	0.00	955.27	17.514	-23.115	0.421	2179.655	0.000	
20.559	163.47	0	0.77	54.56	0.67	0.00	955.94	17.386	-23.243	0.421	2256.335	0.000	
20.569	163.47	0	0.77	56.36	0.65	0.00	956.59	17.258	-23.371	0.420	2330.769	0.000	
20.579	163.47	0	0.70	57.94	0.63	0.00	957.22	15.254	-21.610	0.386	2204.476	0.000	
20.589	163.47	0	0.70	59.48	0.61	0.00	957.83	15.139	-21.725	0.386	2263.323	0.000	
20.599	163.47	0	0.70	60.98	0.60	0.00	958.43	15.024	-21.840	0.385	2320.924	0.000	
20.609	163.47	-2.89	0.64	62.33	0.58	0.00	959.01	5.856	-12.891	0.221	1360.381	0.000	
20.619	163.47	-2.89	0.64	63.64	0.57	0.00	959.59	5.751	-12.996	0.221	1389.237	0.000	
20.629	163.47	-2.89	0.64	64.93	0.56	0.00	960.15	5.647	-13.100	0.221	1417.716	0.000	
20.639	163.47	-2.89	0.64	66.19	0.55	0.00	960.69	5.543	-13.204	0.221	1445.844	0.000	
20.649	163.47	-2.89	0.59	67.33	0.54	0.00	961.23	4.102	-11.963	0.196	1309.941	0.000	
20.659	163.47	-2.89	0.59	68.45	0.53	0.00	961.76	4.007	-12.058	0.196	1332.514	0.000	
20.669	163.47	-2.89	0.59	69.55	0.52	0.00	962.29	3.911	-12.154	0.196	1354.890	0.000	
20.679	163.47	-2.89	0.59	70.64	0.51	0.00	962.80	3.816	-12.249	0.196	1377.078	0.000	
20.689	163.47	-2.89	0.54	71.63	0.51	0.00	963.31	2.581	-11.197	0.176	1250.469	0.000	
20.699	163.47	-2.89	0.54	72.61	0.50	0.00	963.80	2.493	-11.284	0.176	1268.670	0.000	
20.709	163.47	-2.89	0.54	73.57	0.49	0.00	964.30	2.405	-11.372	0.176	1286.763	0.000	
20.719	163.47	-2.89	0.54	74.53	0.49	0.00	964.78	2.317	-11.460	0.176	1304.756	0.000	
20.729	163.47	-2.89	0.54	75.47	0.48	0.00	965.26	2.230	-11.548	0.176	1322.654	0.000	
20.739	163.47	-2.89	0.48	76.28	0.47	0.00	965.74	0.413	-9.895	0.145	1100.267	0.000	
20.749	163.47	-2.89	0.48	77.09	0.47	0.00	966.21	0.336	-9.972	0.145	1113.295	0.000	
20.759	163.47	-2.89	0.48	77.89	0.46	0.00	966.67	0.259	-10.049	0.145	1126.286	0.000	
20.769	163.47	-2.89	0.48	78.68	0.46	0.00	967.13	0.182	-10.126	0.146	1139.243	0.000	
20.786	163.47	-2.89	0.48	80.00	0.76	0.00	967.89	0.080	-10.228	0.245	1156.526	0.000	
20.796	163.47	-2.89	0.00	80.00	0.45	0.00	968.34	-12.610	2.333	0.000	0.000	0.083	
20.800	163.47	-2.89	0.00	80.00	0.19	0.00	968.53	-12.611	2.332	0.000	0.000	0.035	
20.810	163.47	-0.36	0.00	79.96	0.45	0.00	968.98	-8.145	-6.266	0.024	190.000	0.000	
20.820	163.47	-0.36	0.00	79.92	0.45	0.00	969.43	-8.137	-6.258	0.024	190.000	0.000	
20.830	163.47	-0.36	0.00	79.88	0.45	0.00	969.88	-8.130	-6.250	0.024	190.000	0.000	
20.840	163.47	-0.36	0.00	79.85	0.45	0.00	970.33	-8.122	-6.243	0.024	190.000	0.000	
20.850	163.47	-0.36	0.00	79.81	0.45	0.00	970.79	-8.115	-6.235	0.024	190.000	0.000	
20.860	163.47	-0.36	0.00	79.77	0.45	0.00	971.24	-8.107	-6.227	0.024	190.000	0.000	
20.870	163.47	-0.36	0.00	79.73	0.45	0.00	971.69	-8.099	-6.220	0.024	190.000	0.000	
20.880	163.47	-0.36	0.00	79.69	0.45	0.00	972.14	-8.092	-6.212	0.024	190.000	0.000	
20.890	163.47	-0.36	0.00	79.65	0.45	0.00	972.59	-8.084	-6.205	0.024	190.000	0.000	
20.900	163.47	-0.36	0.00	79.61	0.45	0.00	973.04	-8.077	-6.197	0.024	190.000	0.000	
20.910	163.47	-0.36	0.00	79.58	0.45	0.00	973.50	-8.069	-6.190	0.024	190.000	0.000	
20.920	163.47	-0.36	0.00	79.54	0.45	0.00	973.95	-8.062	-6.182	0.024	190.000	0.000	
20.930	163.47	-0.36	0.00	79.50	0.45	0.00	974.40	-8.054	-6.175	0.024	190.000	0.000	
20.940	163.47	-0.36	0.00	79.46	0.45	0.00	974.85	-8.047	-6.167	0.024	190.000	0.000	
20.950	163.47	-0.36	0.00	79.42	0.45	0.00	975.31	-8.039	-6.160	0.024	190.000	0.000	
20.960	163.47	-0.36	0.00	79.39	0.45	0.00	975.76	-8.032	-6.152	0.024	190.000	0.000	
20.970	163.47	-0.36	0.00	79.35	0.45	0.00	976.21	-8.024	-6.145	0.024	190.000	0.000	
20.980	163.47	-0.36	0.00	79.31	0.45	0.00	976.67	-8.017	-6.137	0.024	190.000	0.000	
20.990	163.47	-0.36	0.00	79.27	0.45	0.00	977.12	-8.009	-6.130	0.024	190.000	0.000	
21.000	163.47	-0.36	0.00	79.23	0.45	0.00	977.58	-8.002	-6.122	0.024	190.000	0.000	
21.010	163.47	-0.36	0.00	79.20	0.45	0.00	978.03	-7.994	-6.115	0.024	190.000	0.000	
21.020	163.47	-0.36	0.00	79.16	0.45	0.00	978.49	-7.987	-6.108	0.024	190.000	0.000	
21.030	163.47	-0.36	0.00	79.12	0.45	0.00	978.94	-7.980	-6.100	0.024	190.000	0.000	
21.040	163.47	-0.36	0.00	79.08	0.46	0.00	979.40	-7.972	-6.093	0.024	190.000	0.000	
21.048	163.47	-0.36	0.00	79.05	0.36	0.00	979.76	-7.965	-6.085	0.019	190.000	0.000	
21.058	163.47	0.35	0.00	78.90	0.46	0.00	980.22	-12.149	-13.961	0.024	190.000	0.000	
21.068	163.47	0.35	0.00	78.75	0.46	0.00	980.67	-12.119	-13.932	0.024	190.000	0.000	
21.078	163.47	0.35	0.00	78.60	0.46	0.00	981.13	-12.090	-13.902	0.024	190.000	0.000	
21.088	163.47	0.35	0.00	78.44	0.46	0.00	981.59	-12.060	-13.872	0.024	190.000	0.000	
21.098	163.47	0.35	0.00	78.29	0.46	0.00	982.05	-12.030	-13.843	0.024	190.000	0.000	
21.108	163.47	0.35	0.00	78.14	0.46	0.00	982.51	-12.001	-13.813	0.024	190.000	0.000	
21.118	163.47	0.35	0.00	77.99	0.46	0.00	982.97	-11.971	-13.784	0.024	190.000	0.000	
21.128	163.47	0.35	0.00	77.83	0.46	0.00	983.43	-11.942	-13.754	0.024	190.000	0.000	
21.138	163.47	0.35	0.00	77.68	0.46	0.00	983.89	-11.913	-13.725	0.024	190.000	0.000	
21.148	163.47	0.35	0.00	77.53	0.46	0.00	984.36	-11.883	-13.695	0.024	190.000	0.000	
21.158	163.47	0.35	0.00	77.38	0.46	0.00	984.82	-11.854	-13.666	0.025	190.000	0.000	
21.168	163.47	0.35	0.00	77.22	0.47	0.00	985.29	-11.825	-13.637	0.025	190.000	0.000	
21.178	163.47	0.35	0.00	77.07	0.47	0.00	985.76	-11.795	-13.608	0.025	190.000	0.000	
21.188	163.47	0.35	0.00	76.92	0.47	0.00	986.22	-11.766	-13.578	0.025	190.000	0.000	

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
21.198		163.47	0.35	0.00	76.77	0.47	0.00	986.69	-11.737	-13.549	0.025	190.000	0.000
21.208		163.47	0.35	0.00	76.61	0.47	0.00	987.16	-11.708	-13.520	0.025	190.000	0.000
21.218		163.47	0.35	0.00	76.46	0.47	0.00	987.63	-11.679	-13.491	0.025	190.000	0.000
21.228		163.47	0.35	0.00	76.31	0.47	0.00	988.10	-11.650	-13.462	0.025	190.000	0.000
21.238		163.47	0.35	0.00	76.16	0.47	0.00	988.57	-11.621	-13.433	0.025	190.000	0.000
21.248		163.47	0.35	0.00	76.00	0.47	0.00	989.05	-11.592	-13.405	0.025	190.000	0.000
21.258		163.47	0.35	0.00	75.85	0.47	0.00	989.52	-11.564	-13.376	0.025	190.000	0.000
21.268		163.47	0.35	0.00	75.70	0.48	0.00	990.00	-11.535	-13.347	0.025	190.000	0.000
21.278		163.47	0.35	0.00	75.55	0.48	0.00	990.47	-11.506	-13.318	0.025	190.000	0.000
21.288		163.47	0.35	0.00	75.39	0.48	0.00	990.95	-11.478	-13.290	0.025	190.000	0.000
21.298		163.47	0.35	0.00	75.24	0.48	0.00	991.43	-11.449	-13.261	0.025	190.000	0.000
21.308		163.47	0.35	0.00	75.09	0.48	0.00	991.91	-11.420	-13.233	0.025	190.000	0.000
21.318		163.47	0.35	0.00	74.94	0.48	0.00	992.39	-11.392	-13.204	0.025	190.000	0.000
21.328		163.47	0.35	0.00	74.78	0.48	0.00	992.87	-11.363	-13.176	0.025	190.000	0.000
21.338		163.47	0.35	0.00	74.63	0.48	0.00	993.35	-11.335	-13.147	0.025	190.000	0.000
21.348		163.47	0.35	0.00	74.48	0.48	0.00	993.83	-11.307	-13.119	0.025	190.000	0.000
21.358		163.47	0.35	0.00	74.32	0.48	0.00	994.32	-11.278	-13.090	0.026	190.000	0.000
21.368		163.47	0.35	0.00	74.17	0.48	0.00	994.80	-11.250	-13.062	0.026	190.000	0.000
21.378		163.47	0.35	0.00	74.02	0.49	0.00	995.29	-11.222	-13.034	0.026	190.000	0.000
21.388		163.47	0.35	0.00	73.87	0.49	0.00	995.77	-11.194	-13.006	0.026	190.000	0.000
21.398		163.47	0.35	0.00	73.71	0.49	0.00	996.26	-11.166	-12.978	0.026	190.000	0.000
21.408		163.47	0.35	0.00	73.56	0.49	0.00	996.75	-11.137	-12.950	0.026	190.000	0.000
21.418		163.47	0.35	0.00	73.41	0.49	0.00	997.24	-11.109	-12.922	0.026	190.000	0.000
21.428		163.47	0.35	0.00	73.25	0.49	0.00	997.73	-11.081	-12.894	0.026	190.000	0.000
21.438		163.47	0.35	0.00	73.10	0.49	0.00	998.22	-11.053	-12.866	0.026	190.000	0.000
21.448		163.47	0.35	0.00	72.95	0.49	0.00	998.72	-11.026	-12.838	0.026	190.000	0.000
21.458		163.47	0.35	0.00	72.79	0.49	0.00	999.21	-10.998	-12.810	0.026	190.000	0.000
21.468		163.47	0.35	0.00	72.64	0.50	0.00	999.71	-10.970	-12.782	0.026	190.000	0.000
21.478		163.47	0.35	0.00	72.49	0.50	0.00	1000.20	-10.942	-12.754	0.026	190.000	0.000
21.488		163.47	0.35	0.00	72.33	0.50	0.00	1000.70	-10.915	-12.727	0.026	190.000	0.000
21.498		163.47	0.35	0.00	72.18	0.50	0.00	1001.20	-10.887	-12.699	0.026	190.000	0.000
21.505		163.47	0.35	0.00	72.07	0.35	0.00	1001.55	-10.859	-12.671	0.018	190.000	0.000
21.515		163.47	2.87	0.00	71.47	0.50	0.00	1002.05	-25.620	-40.454	0.026	190.000	0.000
21.525		163.47	2.87	0.00	70.87	0.51	0.00	1002.55	-25.513	-40.347	0.027	190.000	0.000
21.535		163.47	2.87	0.00	70.26	0.51	0.00	1003.06	-25.405	-40.240	0.027	190.000	0.000
21.545		163.47	2.87	0.00	69.65	0.51	0.00	1003.58	-25.298	-40.133	0.027	190.000	0.000
21.555		163.47	2.87	0.00	69.04	0.52	0.00	1004.10	-25.192	-40.026	0.027	190.000	0.000
21.565		163.47	2.87	0.00	68.42	0.52	0.00	1004.62	-25.085	-39.919	0.028	190.000	0.000
21.575		163.47	2.87	0.00	67.79	0.53	0.00	1005.15	-24.978	-39.812	0.028	190.000	0.000
21.585		163.47	2.87	0.00	67.16	0.53	0.00	1005.68	-24.872	-39.706	0.028	190.000	0.000
21.595		163.47	2.87	0.00	66.53	0.54	0.00	1006.22	-24.765	-39.599	0.028	190.000	0.000
21.605		163.47	2.87	0.00	65.89	0.54	0.00	1006.77	-24.659	-39.493	0.029	190.000	0.000
21.615		163.47	2.87	0.00	65.25	0.55	0.00	1007.31	-24.553	-39.387	0.029	190.000	0.000
21.625		163.47	2.87	0.00	64.60	0.55	0.00	1007.87	-24.447	-39.281	0.029	190.000	0.000
21.635		163.47	2.87	0.00	63.94	0.56	0.00	1008.43	-24.341	-39.175	0.030	190.000	0.000
21.645		163.47	2.87	0.00	63.28	0.57	0.00	1009.00	-24.235	-39.069	0.030	190.000	0.000
21.659		163.47	2.87	0.00	62.37	0.78	0.00	1009.78	-24.129	-38.963	0.041	190.000	0.000
21.669		163.47	2.87	0.00	61.70	0.58	0.00	1010.36	-23.985	-38.819	0.031	190.000	0.000
21.679		163.47	2.87	0.00	61.02	0.59	0.00	1010.94	-23.879	-38.713	0.031	190.000	0.000
21.683		163.47	2.87	0.00	60.72	0.26	0.00	1011.20	-23.774	-38.608	0.014	190.000	0.000
21.693		163.47	0	0.00	60.64	0.59	0.00	1011.80	-6.891	-6.891	0.031	190.000	0.000
21.703		163.47	0	0.00	60.55	0.59	0.00	1012.39	-6.878	-6.878	0.031	190.000	0.000
21.713		163.47	0	0.00	60.46	0.59	0.00	1012.98	-6.865	-6.865	0.031	190.000	0.000
21.723		163.47	0	0.00	60.38	0.60	0.00	1013.58	-6.852	-6.852	0.031	190.000	0.000
21.733		163.47	0	0.00	60.29	0.60	0.00	1014.18	-6.839	-6.839	0.031	190.000	0.000
21.750		163.47	0	0.00	60.15	0.99	0.00	1015.17	-6.826	-6.826	0.052	190.000	0.000
21.753		163.47	0	-1.23	59.23	0.21	0.00	1015.37	-35.827	29.093	0.000	0.000	0.187
21.763		163.47	0	-1.23	56.47	0.62	0.00	1016.00	-35.689	29.230	0.000	0.000	0.539
21.773		163.47	0	-1.23	53.58	0.65	0.00	1016.65	-35.486	29.434	0.000	0.000	0.538
21.783		163.47	0	-1.23	50.51	0.69	0.00	1017.34	-35.281	29.638	0.000	0.000	0.538
21.793		163.47	0	-1.23	47.25	0.74	0.00	1018.08	-35.075	29.844	0.000	0.000	0.536
21.803		163.47	0	-1.23	43.75	0.79	0.00	1018.87	-34.867	30.052	0.000	0.000	0.535
21.813		163.47	0	-1.23	39.94	0.86	0.00	1019.73	-34.657	30.262	0.000	0.000	0.532
21.823		163.47	0	-1.23	35.73	0.95	0.00	1020.68	-34.445	30.475	0.000	0.000	0.528
21.833		163.47	0	-1.23	30.94	1.08	0.00	1021.76	-34.228	30.692	0.000	0.000	0.523
21.843		163.47	0	-1.23	25.27	1.28	0.00	1023.04	-34.005	30.915	0.000	0.000	0.514
21.853		163.47	0	-1.23	17.87	1.67	0.00	1024.71	-33.823	31.203	0.000	0.000	0.495
21.863	Pracharat Bamphen	163.47	0	-1.23	0.00	4.03	30.00	1058.74	-33.507	31.519	0.000	0.000	0.373
21.873		163.47	0	1.30	18.33	3.93	0.00	1062.67	33.218	-35.214	0.834	764.951	0.000
21.883		163.47	0	1.30	25.93	1.63	0.00	1064.29	32.888	-35.544	0.715	1581.835	0.000
21.893		163.47	0	1.30	31.75	1.25	0.00	1065.54	32.642	-35.790	0.696	2007.819	0.000
21.903		163.47	0	1.30	36.68	1.05	0.00	1066.59	32.498	-36.116	0.689	2356.757	0.000
21.913		163.47	0	1.11	40.40	0.93	0.00	1067.53	27.192	-31.233	0.591	2278.434	0.000
21.923		163.47	0	0.97	43.39	0.86	0.00	1068.39	23.307	-27.708	0.521	2182.545	0.000
21.933		163.47	0	0.97	46.19	0.80	0.00	1069.19	23.142	-27.873	0.519	2324.272	0.000
21.943		163.47	0	0.86	48.53	0.76	0.00	1069.95	20.095	-25.136	0.465	2202.038	0.000
21.953		163.47	0	0.86	50.77	0.73	0.00	1070.68	19.951	-25.280	0.464	2303.351	0.000
21.963		163.47	0	0.77	52.70	0.70	0.00	1071.37	17.514	-23.115	0.421	2179.655	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
21.973		163.47	0	0.77	54.56	0.67	0.00	1072.04	17.386	-23.243	0.421	2256.335	0.000
21.989		163.47	0	0.77	57.41	1.03	0.00	1073.07	17.220	-23.409	0.672	2352.245	0.000
21.999		163.47	-2.85	0.70	58.96	0.62	0.00	1073.69	7.799	-14.308	0.252	1463.622	0.000
22.009		163.47	-2.85	0.70	60.48	0.60	0.00	1074.29	7.684	-14.423	0.251	1501.050	0.000
22.019		163.47	-2.85	0.64	61.83	0.59	0.00	1074.88	5.988	-12.946	0.222	1359.939	0.000
22.029		163.47	-2.85	0.64	63.16	0.58	0.00	1075.46	5.883	-13.050	0.222	1389.169	0.000
22.039		163.47	-2.85	0.64	64.45	0.56	0.00	1076.02	5.779	-13.155	0.222	1418.006	0.000
22.049		163.47	-2.85	0.64	65.72	0.55	0.00	1076.58	5.675	-13.259	0.222	1446.479	0.000
22.059		163.47	-2.85	0.59	66.87	0.54	0.00	1077.12	4.234	-12.018	0.198	1312.016	0.000
22.069		163.47	-2.85	0.59	68.00	0.53	0.00	1077.65	4.138	-12.113	0.198	1334.867	0.000
22.079		163.47	-2.85	0.59	69.11	0.53	0.00	1078.18	4.043	-12.209	0.198	1357.510	0.000
22.089		163.47	-2.85	0.59	70.20	0.52	0.00	1078.69	3.948	-12.304	0.198	1379.959	0.000
22.099		163.47	-2.85	0.54	71.20	0.51	0.00	1079.20	2.712	-11.251	0.177	1254.491	0.000
22.109		163.47	-2.85	0.54	72.19	0.50	0.00	1079.71	2.624	-11.339	0.178	1272.909	0.000
22.119		163.47	-2.85	0.54	73.16	0.50	0.00	1080.20	2.536	-11.427	0.178	1291.214	0.000
22.129		163.47	-2.85	0.54	74.11	0.49	0.00	1080.69	2.449	-11.515	0.178	1309.413	0.000
22.139		163.47	-2.85	0.54	75.06	0.48	0.00	1081.17	2.361	-11.603	0.178	1327.512	0.000
22.149		163.47	-2.85	0.48	75.88	0.48	0.00	1081.65	0.544	-9.950	0.147	1106.589	0.000
22.159		163.47	-2.85	0.48	76.69	0.47	0.00	1082.12	0.467	-10.027	0.147	1119.774	0.000
22.169		163.47	-2.85	0.48	77.50	0.47	0.00	1082.59	0.390	-10.104	0.147	1132.919	0.000
22.179		163.47	-2.85	0.48	78.29	0.46	0.00	1083.05	0.313	-10.181	0.147	1146.028	0.000
22.185		163.47	-2.85	0.48	78.77	0.28	0.00	1083.33	0.252	-10.242	0.088	1156.501	0.000
22.201		163.47	-0.46	0.48	80.00	0.72	0.00	1084.04	6.359	-16.516	0.410	2063.340	0.000
22.211		163.47	-0.46	0.00	79.98	0.45	0.00	1084.49	-7.581	-5.204	0.024	190.000	0.000
22.221		163.47	-0.46	0.00	79.95	0.45	0.00	1084.94	-7.576	-5.200	0.024	190.000	0.000
22.231		163.47	-0.46	0.00	79.93	0.45	0.00	1085.39	-7.572	-5.195	0.024	190.000	0.000
22.241		163.47	-0.46	0.00	79.91	0.45	0.00	1085.84	-7.567	-5.190	0.024	190.000	0.000
22.251		163.47	-0.46	0.00	79.88	0.45	0.00	1086.29	-7.562	-5.186	0.024	190.000	0.000
22.261		163.47	-0.46	0.00	79.86	0.45	0.00	1086.74	-7.558	-5.181	0.024	190.000	0.000
22.271		163.47	-0.46	0.00	79.84	0.45	0.00	1087.19	-7.553	-5.177	0.024	190.000	0.000
22.281		163.47	-0.46	0.00	79.81	0.45	0.00	1087.65	-7.548	-5.172	0.024	190.000	0.000
22.291		163.47	-0.46	0.00	79.79	0.45	0.00	1088.10	-7.544	-5.167	0.024	190.000	0.000
22.301		163.47	-0.46	0.00	79.77	0.45	0.00	1088.55	-7.539	-5.163	0.024	190.000	0.000
22.311		163.47	-0.46	0.00	79.74	0.45	0.00	1089.00	-7.535	-5.158	0.024	190.000	0.000
22.321		163.47	-0.46	0.00	79.72	0.45	0.00	1089.45	-7.530	-5.154	0.024	190.000	0.000
22.331		163.47	-0.46	0.00	79.70	0.45	0.00	1089.90	-7.526	-5.149	0.024	190.000	0.000
22.341		163.47	-0.46	0.00	79.67	0.45	0.00	1090.35	-7.521	-5.144	0.024	190.000	0.000
22.351		163.47	-0.46	0.00	79.65	0.45	0.00	1090.81	-7.517	-5.140	0.024	190.000	0.000
22.361		163.47	-0.46	0.00	79.63	0.45	0.00	1091.26	-7.512	-5.135	0.024	190.000	0.000
22.371		163.47	-0.46	0.00	79.60	0.45	0.00	1091.71	-7.507	-5.131	0.024	190.000	0.000
22.381		163.47	-0.46	0.00	79.58	0.45	0.00	1092.16	-7.503	-5.126	0.024	190.000	0.000
22.391		163.47	-0.46	0.00	79.56	0.45	0.00	1092.62	-7.498	-5.122	0.024	190.000	0.000
22.401		163.47	-0.46	0.00	79.54	0.45	0.00	1093.07	-7.494	-5.117	0.024	190.000	0.000
22.411		163.47	-0.46	0.00	79.51	0.45	0.00	1093.52	-7.489	-5.113	0.024	190.000	0.000
22.421		163.47	-0.46	0.00	79.49	0.45	0.00	1093.97	-7.485	-5.108	0.024	190.000	0.000
22.431		163.47	-0.46	0.00	79.47	0.45	0.00	1094.43	-7.480	-5.104	0.024	190.000	0.000
22.441		163.47	-0.46	0.00	79.44	0.45	0.00	1094.88	-7.476	-5.099	0.024	190.000	0.000
22.451		163.47	-0.46	0.00	79.42	0.45	0.00	1095.33	-7.472	-5.095	0.024	190.000	0.000
22.461		163.47	-0.46	0.00	79.40	0.45	0.00	1095.79	-7.467	-5.091	0.024	190.000	0.000
22.468		163.47	-0.46	0.00	79.38	0.33	0.00	1096.11	-7.463	-5.086	0.017	190.000	0.000
22.478		163.47	0.49	0.00	79.21	0.45	0.00	1096.57	-13.042	-15.585	0.024	190.000	0.000
22.488		163.47	0.49	0.00	79.03	0.46	0.00	1097.02	-13.008	-15.550	0.024	190.000	0.000
22.498		163.47	0.49	0.00	78.86	0.46	0.00	1097.48	-12.974	-15.516	0.024	190.000	0.000
22.508		163.47	0.49	0.00	78.68	0.46	0.00	1097.94	-12.940	-15.482	0.024	190.000	0.000
22.518		163.47	0.49	0.00	78.51	0.46	0.00	1098.39	-12.905	-15.448	0.024	190.000	0.000
22.528		163.47	0.49	0.00	78.33	0.46	0.00	1098.85	-12.871	-15.414	0.024	190.000	0.000
22.538		163.47	0.49	0.00	78.16	0.46	0.00	1099.31	-12.837	-15.380	0.024	190.000	0.000
22.548		163.47	0.49	0.00	77.98	0.46	0.00	1099.77	-12.803	-15.346	0.024	190.000	0.000
22.558		163.47	0.49	0.00	77.81	0.46	0.00	1100.24	-12.770	-15.312	0.024	190.000	0.000
22.568		163.47	0.49	0.00	77.63	0.46	0.00	1100.70	-12.736	-15.278	0.024	190.000	0.000
22.578		163.47	0.49	0.00	77.46	0.46	0.00	1101.16	-12.702	-15.244	0.025	190.000	0.000
22.588		163.47	0.49	0.00	77.28	0.47	0.00	1101.63	-12.668	-15.210	0.025	190.000	0.000
22.598		163.47	0.49	0.00	77.10	0.47	0.00	1102.10	-12.635	-15.177	0.025	190.000	0.000
22.608		163.47	0.49	0.00	76.93	0.47	0.00	1102.56	-12.601	-15.143	0.025	190.000	0.000
22.618		163.47	0.49	0.00	76.75	0.47	0.00	1103.03	-12.567	-15.110	0.025	190.000	0.000
22.628		163.47	0.49	0.00	76.58	0.47	0.00	1103.50	-12.534	-15.076	0.025	190.000	0.000
22.638		163.47	0.49	0.00	76.40	0.47	0.00	1103.97	-12.500	-15.043	0.025	190.000	0.000
22.648		163.47	0.49	0.00	76.22	0.47	0.00	1104.44	-12.467	-15.009	0.025	190.000	0.000
22.658		163.47	0.49	0.00	76.05	0.47	0.00	1104.92	-12.434	-14.976	0.025	190.000	0.000
22.668		163.47	0.49	0.00	75.87	0.47	0.00	1105.39	-12.400	-14.943	0.025	190.000	0.000
22.678		163.47	0.49	0.00	75.70	0.48	0.00	1105.87	-12.367	-14.910	0.025	190.000	0.000
22.688		163.47	0.49	0.00	75.52	0.48	0.00	1106.34	-12.334	-14.876	0.025	190.000	0.000
22.698		163.47	0.49	0.00	75.34	0.48	0.00	1106.82	-12.301	-14.843	0.025	190.000	0.000
22.708		163.47	0.49	0.00	75.17	0.48	0.00	1107.30	-12.268	-14.810	0.025	190.000	0.000
22.718		163.47	0.49	0.00	74.99	0.48	0.00	1107.78	-12.235	-14.777	0.025	190.000	0.000
22.728		163.47	0.49	0.00	74.81	0.48	0.00	1108.26	-12.202	-14.744	0.025	190.000	0.000
22.733		163.47	0.49	0.00	74.72	0.24	0.00	1108.50	-12.169	-14.711	0.013	190.000	0.000
22.743		163.47	2.9	0.00	74.14	0.48	0.00	1108.98	-26.321	-41.347	0.026	190.000	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time,sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
22.753		163.47	2.9	0.00	73.54	0.49	0.00	1109.47	-26.212	-41.238	0.026	190.000	0.000
22.763		163.47	2.9	0.00	72.95	0.49	0.00	1109.96	-26.104	-41.129	0.026	190.000	0.000
22.773		163.47	2.9	0.00	72.35	0.50	0.00	1110.46	-25.995	-41.021	0.026	190.000	0.000
22.783		163.47	2.9	0.00	71.74	0.50	0.00	1110.96	-25.886	-40.912	0.026	190.000	0.000
22.793		163.47	2.9	0.00	71.13	0.50	0.00	1111.46	-25.778	-40.803	0.027	190.000	0.000
22.803		163.47	2.9	0.00	70.52	0.51	0.00	1111.97	-25.669	-40.695	0.027	190.000	0.000
22.813		163.47	2.9	0.00	69.90	0.51	0.00	1112.48	-25.561	-40.587	0.027	190.000	0.000
22.823		163.47	2.9	0.00	69.28	0.52	0.00	1113.00	-25.453	-40.479	0.027	190.000	0.000
22.833		163.47	2.9	0.00	68.66	0.52	0.00	1113.52	-25.345	-40.371	0.028	190.000	0.000
22.843		163.47	2.9	0.00	68.03	0.53	0.00	1114.05	-25.237	-40.263	0.028	190.000	0.000
22.853		163.47	2.9	0.00	67.39	0.53	0.00	1114.58	-25.129	-40.155	0.028	190.000	0.000
22.863		163.47	2.9	0.00	66.76	0.54	0.00	1115.12	-25.022	-40.048	0.028	190.000	0.000
22.873		163.47	2.9	0.00	66.11	0.54	0.00	1115.66	-24.914	-39.940	0.029	190.000	0.000
22.883		163.47	2.9	0.00	65.46	0.55	0.00	1116.20	-24.807	-39.833	0.029	190.000	0.000
22.893		163.47	2.9	0.00	64.81	0.55	0.00	1116.76	-24.700	-39.725	0.029	190.000	0.000
22.913		163.47	2.9	0.00	63.50	1.11	0.00	1117.86	-24.592	-39.618	0.058	190.000	0.000
22.923		163.47	2.9	0.00	62.83	0.57	0.00	1118.43	-24.381	-39.407	0.030	190.000	0.000
22.926		163.47	2.9	0.00	62.61	0.19	0.00	1118.62	-24.274	-39.300	0.010	190.000	0.000
22.936		163.47	0	0.00	62.52	0.58	0.00	1119.20	-7.185	-7.185	0.030	190.000	0.000
22.946		163.47	0	0.00	62.43	0.58	0.00	1119.77	-7.171	-7.171	0.030	190.000	0.000
22.956		163.47	0	0.00	62.35	0.58	0.00	1120.35	-7.158	-7.158	0.030	190.000	0.000
22.966		163.47	0	0.00	62.26	0.58	0.00	1120.93	-7.144	-7.144	0.030	190.000	0.000
22.976		163.47	0	0.00	62.18	0.58	0.00	1121.51	-7.131	-7.131	0.031	190.000	0.000
22.986		163.47	0	0.00	62.09	0.58	0.00	1122.09	-7.117	-7.117	0.031	190.000	0.000
22.996		163.47	0	0.00	62.00	0.61	0.00	1122.69	-7.104	-7.104	0.032	190.000	0.000
23.006		163.47	0	-1.23	59.50	0.57	0.00	1123.26	-35.907	29.012	0.000	0.000	0.514
23.016		163.47	0	-1.23	56.76	0.62	0.00	1123.88	-35.710	29.210	0.000	0.000	0.539
23.026		163.47	0	-1.23	53.87	0.65	0.00	1124.53	-35.506	29.413	0.000	0.000	0.538
23.036		163.47	0	-1.23	50.83	0.69	0.00	1125.22	-35.302	29.618	0.000	0.000	0.538
23.046		163.47	0	-1.23	47.59	0.73	0.00	1125.95	-35.096	29.824	0.000	0.000	0.536
23.056		163.47	0	-1.23	44.11	0.79	0.00	1126.73	-34.888	30.031	0.000	0.000	0.535
23.066		163.47	0	-1.23	40.34	0.85	0.00	1127.59	-34.679	30.241	0.000	0.000	0.532
23.076		163.47	0	-1.23	36.17	0.94	0.00	1128.53	-34.466	30.453	0.000	0.000	0.529
23.086		163.47	0	-1.23	31.46	1.06	0.00	1129.59	-34.250	30.670	0.000	0.000	0.524
23.096		163.47	0	-1.23	25.90	1.26	0.00	1130.85	-34.027	30.892	0.000	0.000	0.515
23.106		163.47	0	-1.23	18.74	1.61	0.00	1132.46	-33.848	31.179	0.000	0.000	0.498
23.117	Suthisan	163.47	0	-1.23	0.00	4.22	30.00	1166.68	-33.515	31.511	0.000	0.000	0.421
23.127		163.47	0	1.30	18.33	3.93	0.00	1170.61	33.218	-35.214	0.834	764.974	0.000
23.137		163.47	0	1.30	25.93	1.63	0.00	1172.24	32.888	-35.544	0.715	1581.835	0.000
23.147		163.47	0	1.30	31.75	1.25	0.00	1173.49	32.642	-35.790	0.696	2007.819	0.000
23.157		163.47	0	1.30	36.68	1.05	0.00	1174.54	32.498	-36.116	0.689	2356.757	0.000
23.167		163.47	0	1.11	40.40	0.93	0.00	1175.47	27.192	-31.233	0.591	2278.434	0.000
23.177		163.47	0	0.97	43.39	0.86	0.00	1176.33	23.307	-27.708	0.521	2182.545	0.000
23.187		163.47	0	0.97	46.19	0.80	0.00	1177.14	23.142	-27.873	0.519	2324.272	0.000
23.197		163.47	0	0.86	48.53	0.76	0.00	1177.90	20.095	-25.136	0.465	2202.038	0.000
23.207		163.47	0	0.86	50.77	0.73	0.00	1178.62	19.951	-25.280	0.464	2303.351	0.000
23.217		163.47	0	0.77	52.70	0.70	0.00	1179.32	17.514	-23.115	0.421	2179.655	0.000
23.227		163.47	0	0.77	54.56	0.67	0.00	1179.99	17.386	-23.243	0.421	2256.335	0.000
23.230		163.47	0	0.77	55.10	0.20	0.00	1180.19	17.302	-23.327	0.126	2305.237	0.000
23.240		163.47	-2.54	0.70	56.72	0.64	0.00	1180.83	8.767	-14.945	0.267	1490.236	0.000
23.250		163.47	-2.54	0.70	58.30	0.63	0.00	1181.46	8.652	-15.061	0.266	1531.049	0.000
23.260		163.47	-2.54	0.70	59.83	0.61	0.00	1182.06	8.537	-15.176	0.266	1571.046	0.000
23.270		163.47	-2.54	0.70	61.32	0.59	0.00	1182.66	8.422	-15.291	0.266	1610.298	0.000
23.280		163.47	-2.54	0.64	62.66	0.58	0.00	1183.24	6.725	-13.813	0.237	1468.507	0.000
23.290		163.47	-2.54	0.64	63.96	0.57	0.00	1183.81	6.621	-13.918	0.237	1499.415	0.000
23.300		163.47	-2.54	0.64	65.24	0.56	0.00	1184.37	6.517	-14.022	0.237	1529.909	0.000
23.310		163.47	-2.54	0.59	66.40	0.55	0.00	1184.91	5.076	-12.781	0.212	1398.502	0.000
23.320		163.47	-2.54	0.59	67.54	0.54	0.00	1185.45	4.980	-12.876	0.213	1423.113	0.000
23.330		163.47	-2.54	0.59	68.66	0.53	0.00	1185.98	4.885	-12.972	0.213	1447.484	0.000
23.340		163.47	-2.54	0.59	69.76	0.52	0.00	1186.50	4.790	-13.067	0.213	1471.629	0.000
23.350		163.47	-2.54	0.59	70.84	0.51	0.00	1187.01	4.694	-13.162	0.213	1495.561	0.000
23.360		163.47	-2.54	0.54	71.83	0.50	0.00	1187.52	3.459	-12.110	0.192	1370.195	0.000
23.370		163.47	-2.54	0.54	72.80	0.50	0.00	1188.01	3.371	-12.198	0.192	1389.972	0.000
23.380		163.47	-2.54	0.54	73.77	0.49	0.00	1188.50	3.283	-12.286	0.192	1409.622	0.000
23.390		163.47	-2.54	0.54	74.72	0.48	0.00	1188.99	3.196	-12.373	0.193	1429.151	0.000
23.400		163.47	-2.54	0.54	75.65	0.48	0.00	1189.47	3.108	-12.461	0.193	1448.566	0.000
23.410		163.47	-2.54	0.48	76.47	0.47	0.00	1189.94	1.291	-10.808	0.161	1227.004	0.000
23.420		163.47	-2.54	0.48	77.28	0.47	0.00	1190.41	1.214	-10.885	0.161	1241.343	0.000
23.430		163.47	-2.54	0.48	78.07	0.46	0.00	1190.87	1.137	-10.962	0.162	1255.632	0.000
23.440		163.47	-2.54	0.48	78.86	0.46	0.00	1191.33	1.060	-11.039	0.162	1269.873	0.000
23.455		163.47	-2.54	0.48	80.00	0.66	0.00	1191.99	0.967	-11.133	0.235	1287.239	0.000
23.465		163.47	-2.54	0.00	80.00	0.45	0.00	1192.44	-11.714	1.437	0.000	0.000	0.066
23.475		163.47	-2.54	0.00	80.00	0.45	0.00	1192.89	-11.715	1.437	0.000	0.000	0.067
23.478		163.47	-2.54	0.00	80.00	0.16	0.00	1193.05	-11.715	1.437	0.000	0.000	0.024
23.488		163.47	0.46	0.00	79.83	0.45	0.00	1193.50	-12.952	-15.308	0.024	190.000	0.000
23.498		163.47	0.46	0.00	79.66	0.45	0.00	1193.95	-12.919	-15.275	0.024	190.000	0.000
23.508		163.47	0.46	0.00	79.49	0.45	0.00	1194.40	-12.886	-15.241	0.024	190.000	0.000
23.518		163.47	0.46	0.00	79.32	0.45	0.00	1194.85	-12.852	-15.208	0.024	190.000	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
23.528		163.47	0.46	0.00	79.15	0.45	0.00	1195.31	-12.819	-15.175	0.024	190.000	0.000
23.538		163.47	0.46	0.00	78.99	0.46	0.00	1195.76	-12.786	-15.142	0.024	190.000	0.000
23.548		163.47	0.46	0.00	78.82	0.46	0.00	1196.22	-12.753	-15.109	0.024	190.000	0.000
23.558		163.47	0.46	0.00	78.65	0.46	0.00	1196.68	-12.720	-15.076	0.024	190.000	0.000
23.568		163.47	0.46	0.00	78.48	0.46	0.00	1197.14	-12.687	-15.043	0.024	190.000	0.000
23.578		163.47	0.46	0.00	78.31	0.46	0.00	1197.60	-12.654	-15.010	0.024	190.000	0.000
23.588		163.47	0.46	0.00	78.14	0.46	0.00	1198.06	-12.621	-14.977	0.024	190.000	0.000
23.598		163.47	0.46	0.00	77.97	0.46	0.00	1198.52	-12.588	-14.944	0.024	190.000	0.000
23.608		163.47	0.46	0.00	77.80	0.46	0.00	1198.98	-12.556	-14.911	0.024	190.000	0.000
23.618		163.47	0.46	0.00	77.63	0.46	0.00	1199.44	-12.523	-14.879	0.024	190.000	0.000
23.628		163.47	0.46	0.00	77.46	0.46	0.00	1199.91	-12.490	-14.846	0.025	190.000	0.000
23.638		163.47	0.46	0.00	77.29	0.47	0.00	1200.37	-12.458	-14.814	0.025	190.000	0.000
23.648		163.47	0.46	0.00	77.12	0.47	0.00	1200.84	-12.425	-14.781	0.025	190.000	0.000
23.658		163.47	0.46	0.00	76.95	0.47	0.00	1201.31	-12.393	-14.748	0.025	190.000	0.000
23.668		163.47	0.46	0.00	76.78	0.47	0.00	1201.77	-12.360	-14.716	0.025	190.000	0.000
23.678		163.47	0.46	0.00	76.61	0.47	0.00	1202.24	-12.328	-14.684	0.025	190.000	0.000
23.688		163.47	0.46	0.00	76.44	0.47	0.00	1202.71	-12.296	-14.651	0.025	190.000	0.000
23.698		163.47	0.46	0.00	76.27	0.47	0.00	1203.18	-12.263	-14.619	0.025	190.000	0.000
23.708		163.47	0.46	0.00	76.10	0.47	0.00	1203.66	-12.231	-14.587	0.025	190.000	0.000
23.718		163.47	0.46	0.00	75.93	0.47	0.00	1204.13	-12.199	-14.555	0.025	190.000	0.000
23.728		163.47	0.46	0.00	75.76	0.47	0.00	1204.61	-12.167	-14.523	0.025	190.000	0.000
23.738		163.47	0.46	0.00	75.59	0.48	0.00	1205.08	-12.135	-14.491	0.025	190.000	0.000
23.748		163.47	0.46	0.00	75.42	0.48	0.00	1205.56	-12.103	-14.459	0.025	190.000	0.000
23.758		163.47	0.46	0.00	75.25	0.48	0.00	1206.04	-12.071	-14.427	0.025	190.000	0.000
23.764		163.47	0.46	0.00	75.15	0.29	0.00	1206.32	-12.039	-14.395	0.015	190.000	0.000
23.774		163.47	2.78	0.00	74.58	0.48	0.00	1206.80	-25.689	-40.088	0.025	190.000	0.000
23.784		163.47	2.78	0.00	74.01	0.48	0.00	1207.29	-25.584	-39.983	0.026	190.000	0.000
23.794		163.47	2.78	0.00	73.44	0.49	0.00	1207.78	-25.479	-39.878	0.026	190.000	0.000
23.804		163.47	2.78	0.00	72.86	0.49	0.00	1208.27	-25.374	-39.773	0.026	190.000	0.000
23.814		163.47	2.78	0.00	72.28	0.50	0.00	1208.77	-25.269	-39.668	0.026	190.000	0.000
23.824		163.47	2.78	0.00	71.70	0.50	0.00	1209.27	-25.164	-39.563	0.026	190.000	0.000
23.834		163.47	2.78	0.00	71.11	0.50	0.00	1209.77	-25.059	-39.459	0.027	190.000	0.000
23.844		163.47	2.78	0.00	70.52	0.51	0.00	1210.28	-24.955	-39.354	0.027	190.000	0.000
23.854		163.47	2.78	0.00	69.93	0.51	0.00	1210.79	-24.850	-39.250	0.027	190.000	0.000
23.864		163.47	2.78	0.00	69.33	0.52	0.00	1211.31	-24.746	-39.145	0.027	190.000	0.000
23.874		163.47	2.78	0.00	68.73	0.52	0.00	1211.83	-24.642	-39.041	0.028	190.000	0.000
23.884		163.47	2.78	0.00	68.12	0.53	0.00	1212.35	-24.538	-38.937	0.028	190.000	0.000
23.894		163.47	2.78	0.00	67.51	0.53	0.00	1212.89	-24.434	-38.833	0.028	190.000	0.000
23.904		163.47	2.78	0.00	66.89	0.54	0.00	1213.42	-24.330	-38.730	0.028	190.000	0.000
23.914		163.47	2.78	0.00	66.28	0.54	0.00	1213.96	-24.227	-38.626	0.029	190.000	0.000
23.928		163.47	2.78	0.00	65.41	0.75	0.00	1214.71	-24.123	-38.522	0.040	190.000	0.000
23.938		163.47	2.78	0.00	64.78	0.55	0.00	1215.27	-23.981	-38.380	0.029	190.000	0.000
23.948		163.47	2.78	0.00	64.15	0.56	0.00	1215.83	-23.877	-38.277	0.029	190.000	0.000
23.951		163.47	2.78	0.00	63.94	0.18	0.00	1216.01	-23.774	-38.173	0.010	190.000	0.000
23.961		163.47	0	0.00	63.85	0.56	0.00	1216.57	-7.398	-7.398	0.030	190.000	0.000
23.971		163.47	0	0.00	63.77	0.56	0.00	1217.14	-7.384	-7.384	0.030	190.000	0.000
23.981		163.47	0	0.00	63.68	0.56	0.00	1217.70	-7.370	-7.370	0.030	190.000	0.000
23.991		163.47	0	0.00	63.59	0.57	0.00	1218.27	-7.356	-7.356	0.030	190.000	0.000
24.006		163.47	0	0.00	63.46	0.83	0.00	1219.10	-7.342	-7.342	0.044	190.000	0.000
24.011		163.47	0	-1.23	62.12	0.30	0.00	1219.40	-36.067	28.853	0.000	0.000	0.286
24.021		163.47	0	-1.23	59.50	0.59	0.00	1220.00	-35.912	29.007	0.000	0.000	0.539
24.031		163.47	0	-1.23	56.76	0.62	0.00	1220.61	-35.710	29.210	0.000	0.000	0.539
24.041		163.47	0	-1.23	53.87	0.65	0.00	1221.27	-35.506	29.413	0.000	0.000	0.538
24.051		163.47	0	-1.23	50.83	0.69	0.00	1221.95	-35.302	29.618	0.000	0.000	0.538
24.061		163.47	0	-1.23	47.59	0.73	0.00	1222.68	-35.096	29.824	0.000	0.000	0.536
24.071		163.47	0	-1.23	44.11	0.79	0.00	1223.47	-34.888	30.031	0.000	0.000	0.535
24.081		163.47	0	-1.23	40.34	0.85	0.00	1224.32	-34.679	30.241	0.000	0.000	0.532
24.091		163.47	0	-1.23	36.17	0.94	0.00	1225.26	-34.466	30.453	0.000	0.000	0.529
24.101		163.47	0	-1.23	31.46	1.06	0.00	1226.33	-34.250	30.670	0.000	0.000	0.524
24.111		163.47	0	-1.23	25.90	1.26	0.00	1227.58	-34.027	30.892	0.000	0.000	0.515
24.132	Ratchada	163.47	0	-1.23	0.00	5.84	30.00	1263.42	-33.588	31.439	0.000	0.000	0.920
24.142		163.47	0	1.30	18.33	3.93	0.00	1267.35	33.218	-35.214	0.834	764.985	0.000
24.152		163.47	0	1.30	25.93	1.63	0.00	1268.97	32.888	-35.544	0.715	1581.835	0.000
24.162		163.47	0	1.30	31.75	1.25	0.00	1270.22	32.642	-35.790	0.696	2007.819	0.000
24.172		163.47	0	1.30	36.68	1.05	0.00	1271.27	32.498	-36.116	0.689	2356.757	0.000
24.182		163.47	0	1.11	40.40	0.93	0.00	1272.21	27.192	-31.233	0.591	2278.434	0.000
24.192		163.47	0	0.97	43.39	0.86	0.00	1273.07	23.307	-27.708	0.521	2182.545	0.000
24.202		163.47	0	0.97	46.19	0.80	0.00	1273.87	23.142	-27.873	0.519	2324.272	0.000
24.212		163.47	0	0.86	48.53	0.76	0.00	1274.63	20.095	-25.136	0.465	2202.038	0.000
24.222		163.47	0	0.86	50.77	0.73	0.00	1275.36	19.951	-25.280	0.464	2303.351	0.000
24.232		163.47	0	0.77	52.70	0.70	0.00	1276.05	17.514	-23.115	0.421	2179.655	0.000
24.245		163.47	0	0.77	55.10	0.87	0.00	1276.92	17.367	-23.262	0.547	2267.414	0.000
24.255		163.47	-0.56	0.70	56.72	0.64	0.00	1277.57	13.890	-20.069	0.360	2010.634	0.000
24.265		163.47	-0.56	0.70	58.30	0.63	0.00	1278.19	13.775	-20.184	0.359	2066.306	0.000
24.275		163.47	-0.56	0.70	59.83	0.61	0.00	1278.80	13.660	-20.299	0.359	2120.760	0.000
24.285		163.47	-0.56	0.70	61.32	0.59	0.00	1279.40	13.545	-20.414	0.359	2174.098	0.000
24.295		163.47	-0.56	0.64	62.66	0.58	0.00	1279.98	11.849	-18.936	0.330	2045.471	0.000
24.305		163.47	-0.56	0.64	63.96	0.57	0.00	1280.54	11.744	-19.041	0.330	2088.670	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
24.315		163.47	-0.56	0.64	65.24	0.56	0.00	1281.10	11.640	-19.145	0.330	2131.204	0.000
24.325		163.47	-0.56	0.59	66.40	0.55	0.00	1281.65	10.199	-17.904	0.306	2011.139	0.000
24.335		163.47	-0.56	0.59	67.54	0.54	0.00	1282.19	10.104	-18.000	0.306	2046.424	0.000
24.345		163.47	-0.56	0.59	68.66	0.53	0.00	1282.72	10.008	-18.095	0.306	2081.289	0.000
24.355		163.47	-0.56	0.59	69.76	0.52	0.00	1283.24	9.913	-18.190	0.306	2115.757	0.000
24.365		163.47	-0.56	0.59	70.84	0.51	0.00	1283.75	9.818	-18.286	0.306	2149.850	0.000
24.375		163.47	-0.56	0.54	71.83	0.50	0.00	1284.25	8.582	-17.233	0.285	2034.125	0.000
24.385		163.47	-0.56	0.54	72.80	0.50	0.00	1284.75	8.494	-17.321	0.285	2063.041	0.000
24.395		163.47	-0.56	0.54	73.77	0.49	0.00	1285.24	8.407	-17.409	0.285	2091.707	0.000
24.405		163.47	-0.56	0.54	74.72	0.48	0.00	1285.73	8.319	-17.497	0.286	2120.135	0.000
24.415		163.47	-0.56	0.54	75.65	0.48	0.00	1286.20	8.231	-17.584	0.286	2148.336	0.000
24.425		163.47	-0.56	0.48	76.47	0.47	0.00	1286.68	6.414	-15.932	0.254	1934.933	0.000
24.435		163.47	-0.56	0.48	77.28	0.47	0.00	1287.15	6.337	-16.009	0.255	1956.819	0.000
24.445		163.47	-0.56	0.48	78.07	0.46	0.00	1287.61	6.261	-16.085	0.255	1978.576	0.000
24.455		163.47	-0.56	0.48	78.86	0.46	0.00	1288.07	6.184	-16.162	0.255	2000.209	0.000
24.470		163.47	-0.56	0.48	80.00	0.66	0.00	1288.73	6.090	-16.256	0.370	2026.520	0.000
24.480		163.47	-0.56	0.00	79.99	0.45	0.00	1289.18	-6.981	-4.076	0.024	190.000	0.000
24.490		163.47	-0.56	0.00	79.98	0.45	0.00	1289.63	-6.979	-4.075	0.024	190.000	0.000
24.500		163.47	-0.56	0.00	79.97	0.45	0.00	1290.08	-6.978	-4.073	0.024	190.000	0.000
24.510		163.47	-0.56	0.00	79.97	0.45	0.00	1290.53	-6.976	-4.072	0.024	190.000	0.000
24.520		163.47	-0.56	0.00	79.96	0.45	0.00	1290.98	-6.975	-4.070	0.024	190.000	0.000
24.530		163.47	-0.56	0.00	79.95	0.45	0.00	1291.43	-6.973	-4.069	0.024	190.000	0.000
24.530		163.47	-0.56	0.00	79.95	0.02	0.00	1291.45	-6.972	-4.067	0.001	190.000	0.000
24.540		163.47	0.56	0.00	79.77	0.45	0.00	1291.90	-13.554	-16.448	0.024	190.000	0.000
24.550		163.47	0.56	0.00	79.58	0.45	0.00	1292.35	-13.517	-16.412	0.024	190.000	0.000
24.567		163.47	0.56	0.00	79.27	0.75	0.00	1293.10	-13.481	-16.375	0.040	190.000	0.000
24.577		163.47	0.56	-1.10	77.45	0.46	0.00	1293.56	-32.520	22.562	0.000	0.000	0.448
24.587		163.47	0.56	-1.10	75.59	0.47	0.00	1294.03	-32.343	22.738	0.000	0.000	0.449
24.597		163.47	0.56	-1.10	73.69	0.48	0.00	1294.52	-32.167	22.915	0.000	0.000	0.449
24.607		163.47	0.56	-1.23	71.49	0.50	0.00	1295.01	-35.451	26.574	0.000	0.000	0.513
24.617		163.47	0.56	-1.23	69.23	0.51	0.00	1295.52	-35.252	26.773	0.000	0.000	0.513
24.627		163.47	0.56	-1.23	66.88	0.53	0.00	1296.05	-35.052	26.973	0.000	0.000	0.513
24.637		163.47	0.56	-1.23	64.46	0.55	0.00	1296.60	-34.852	27.173	0.000	0.000	0.513
24.647		163.47	0.56	-1.23	61.93	0.57	0.00	1297.17	-34.652	27.373	0.000	0.000	0.513
24.654	(Start of Curve)	163.47	0.56	-1.23	60.00	0.44	0.00	1297.61	-34.477	27.548	0.000	0.000	0.380
24.664		163.47	0.56	0.00	59.79	0.60	0.00	1298.21	-10.066	-12.960	0.032	190.000	0.000
24.674		163.47	0.56	0.00	59.59	0.60	0.00	1298.81	-10.035	-12.929	0.032	190.000	0.000
24.684		163.47	0.56	0.00	59.39	0.61	0.00	1299.42	-10.004	-12.898	0.032	190.000	0.000
24.694		163.47	0.56	0.00	59.18	0.61	0.00	1300.02	-9.973	-12.867	0.032	190.000	0.000
24.704		163.47	0.56	0.00	58.98	0.61	0.00	1300.63	-9.942	-12.837	0.032	190.000	0.000
24.714		163.47	0.56	0.00	58.77	0.61	0.00	1301.25	-9.911	-12.806	0.032	190.000	0.000
24.724		163.47	0.56	0.00	58.57	0.61	0.00	1301.86	-9.881	-12.775	0.032	190.000	0.000
24.734		163.47	0.56	0.00	58.36	0.62	0.00	1302.47	-9.850	-12.745	0.032	190.000	0.000
24.744		163.47	0.56	0.00	58.15	0.62	0.00	1303.09	-9.820	-12.714	0.033	190.000	0.000
24.754		163.47	0.56	0.00	57.95	0.62	0.00	1303.71	-9.789	-12.683	0.033	190.000	0.000
24.764		163.47	0.56	0.00	57.74	0.62	0.00	1304.34	-9.759	-12.653	0.033	190.000	0.000
24.774		163.47	0.56	0.00	57.53	0.62	0.00	1304.96	-9.728	-12.622	0.033	190.000	0.000
24.784		163.47	0.56	0.00	57.33	0.63	0.00	1305.59	-9.698	-12.592	0.033	190.000	0.000
24.794		163.47	0.56	0.00	57.12	0.63	0.00	1306.22	-9.667	-12.562	0.033	190.000	0.000
24.804		163.47	0.56	0.00	56.91	0.63	0.00	1306.85	-9.637	-12.531	0.033	190.000	0.000
24.814		163.47	0.56	0.00	56.70	0.63	0.00	1307.48	-9.607	-12.501	0.033	190.000	0.000
24.824		163.47	0.56	0.00	56.49	0.64	0.00	1308.12	-9.577	-12.471	0.034	190.000	0.000
24.834		163.47	0.56	0.00	56.28	0.64	0.00	1308.76	-9.546	-12.441	0.034	190.000	0.000
24.844		163.47	0.56	0.00	56.07	0.64	0.00	1309.40	-9.516	-12.411	0.034	190.000	0.000
24.852		163.47	0.56	0.00	55.90	0.51	0.00	1309.91	-9.486	-12.381	0.027	190.000	0.000
24.862		163.47	0	0.00	55.82	0.64	0.00	1310.55	-6.177	-6.177	0.034	190.000	0.000
24.872		163.47	0	0.00	55.74	0.65	0.00	1311.20	-6.165	-6.165	0.034	190.000	0.000
24.882		163.47	0	0.00	55.66	0.65	0.00	1311.85	-6.153	-6.153	0.034	190.000	0.000
24.892		163.47	0	0.00	55.57	0.65	0.00	1312.49	-6.142	-6.142	0.034	190.000	0.000
24.902		163.47	0	0.00	55.49	0.65	0.00	1313.14	-6.130	-6.130	0.034	190.000	0.000
24.912		163.47	0	0.00	55.41	0.65	0.00	1313.79	-6.118	-6.118	0.034	190.000	0.000
24.926	(End of Curve)	163.47	0	0.00	55.29	0.91	0.00	1314.70	-6.106	-6.106	0.048	190.000	0.000
24.936		163.47	0	0.00	55.21	0.65	0.00	1315.35	-6.090	-6.090	0.034	190.000	0.000
24.946		163.47	0	0.00	55.13	0.65	0.00	1316.01	-6.078	-6.078	0.034	190.000	0.000
24.956		163.47	0	0.00	55.04	0.65	0.00	1316.66	-6.067	-6.067	0.034	190.000	0.000
24.973		163.47	0	0.00	54.90	1.12	0.00	1317.78	-6.055	-6.055	0.059	190.000	0.000
24.983		163.47	0	0.00	54.82	0.66	0.00	1318.44	-6.035	-6.035	0.035	190.000	0.000
24.986		163.47	0	0.00	54.79	0.20	0.00	1318.63	-6.023	-6.023	0.010	190.000	0.000
24.992		163.47	0	0.00	54.74	0.39	0.00	1319.02	-6.020	-6.020	0.021	190.000	0.000
25.000		163.47	0	-1.23	52.38	0.54	0.00	1319.56	-35.384	29.535	0.000	0.000	0.428
25.010		163.47	0	-1.23	49.24	0.71	0.00	1320.27	-35.199	29.720	0.000	0.000	0.537
25.020		163.47	0	-1.23	45.89	0.76	0.00	1321.02	-34.992	29.927	0.000	0.000	0.536
25.030		163.47	0	-1.23	42.27	0.82	0.00	1321.84	-34.784	30.136	0.000	0.000	0.534
25.040		163.47	0	-1.23	38.31	0.89	0.00	1322.73	-34.573	30.347	0.000	0.000	0.531
25.050		163.47	0	-1.23	33.90	1.00	0.00	1323.73	-34.359	30.561	0.000	0.000	0.527
25.060		163.47	0	-1.23	28.81	1.15	0.00	1324.88	-34.140	30.780	0.000	0.000	0.520
25.070		163.47	0	-1.23	22.60	1.40	0.00	1326.28	-33.966	31.060	0.000	0.000	0.509
25.086	Lat Phrao	163.47	0	-1.23	0.00	5.10	30.00	1361.37	-33.552	31.474	0.000	0.000	0.667

Simulation(Coasting)

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Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
25.096		163.47	0	1.30	18.33	3.93	0.00	1365.30	33.218	-35.214	0.834	764.989	0.000
25.106		163.47	0	1.30	25.93	1.63	0.00	1366.93	32.888	-35.544	0.715	1581.835	0.000
25.116		163.47	0	1.30	31.75	1.25	0.00	1368.18	32.642	-35.790	0.696	2007.819	0.000
25.126		163.47	0	1.30	36.68	1.05	0.00	1369.23	32.498	-36.116	0.689	2356.757	0.000
25.136		163.47	0	1.11	40.40	0.93	0.00	1370.16	27.192	-31.233	0.591	2278.434	0.000
25.146		163.47	0	0.97	43.39	0.86	0.00	1371.02	23.307	-27.708	0.521	2182.545	0.000
25.156		163.47	0	0.97	46.19	0.80	0.00	1371.83	23.142	-27.873	0.519	2324.272	0.000
25.166		163.47	0	0.86	48.53	0.76	0.00	1372.59	20.095	-25.136	0.465	2202.038	0.000
25.176		163.47	0	0.86	50.77	0.73	0.00	1373.31	19.951	-25.280	0.464	2303.351	0.000
25.186		163.47	0	0.77	52.70	0.70	0.00	1374.01	17.514	-23.115	0.421	2179.655	0.000
25.196		163.47	0	0.77	54.56	0.67	0.00	1374.68	17.386	-23.243	0.421	2256.335	0.000
25.206		163.47	0	0.77	56.36	0.65	0.00	1375.33	17.258	-23.371	0.420	2330.769	0.000
25.216		163.47	0	0.70	57.94	0.63	0.00	1375.96	15.254	-21.610	0.386	2204.476	0.000
25.226		163.47	0	0.70	59.48	0.61	0.00	1376.57	15.139	-21.725	0.386	2263.323	0.000
25.236		163.47	0	0.70	60.98	0.60	0.00	1377.17	15.024	-21.840	0.385	2320.924	0.000
25.243		163.47	0	0.64	61.93	0.41	0.00	1377.58	13.343	-20.347	0.249	2190.201	0.000
25.253		163.47	-2.73	0.64	63.25	0.58	0.00	1378.15	6.181	-13.363	0.228	1425.952	0.000
25.263		163.47	-2.73	0.64	64.54	0.56	0.00	1378.72	6.077	-13.467	0.228	1455.489	0.000
25.273		163.47	-2.73	0.64	65.81	0.55	0.00	1379.27	5.973	-13.571	0.228	1484.648	0.000
25.283		163.47	-2.73	0.59	66.96	0.54	0.00	1379.81	4.532	-12.330	0.203	1350.619	0.000
25.293		163.47	-2.73	0.59	68.09	0.53	0.00	1380.34	4.437	-12.426	0.203	1374.084	0.000
25.303		163.47	-2.73	0.59	69.20	0.52	0.00	1380.87	4.341	-12.521	0.204	1397.333	0.000
25.313		163.47	-2.73	0.59	70.29	0.52	0.00	1381.39	4.246	-12.617	0.204	1420.378	0.000
25.323		163.47	-2.73	0.54	71.28	0.51	0.00	1381.89	3.011	-11.564	0.183	1295.305	0.000
25.333		163.47	-2.73	0.54	72.27	0.50	0.00	1382.40	2.923	-11.652	0.183	1314.262	0.000
25.343		163.47	-2.73	0.54	73.24	0.49	0.00	1382.89	2.835	-11.740	0.183	1333.100	0.000
25.353		163.47	-2.73	0.54	74.19	0.49	0.00	1383.38	2.747	-11.828	0.183	1351.825	0.000
25.363		163.47	-2.73	0.54	75.14	0.48	0.00	1383.86	2.659	-11.915	0.184	1370.444	0.000
25.373		163.47	-2.73	0.48	75.96	0.48	0.00	1384.34	0.842	-10.263	0.152	1149.759	0.000
25.383		163.47	-2.73	0.48	76.77	0.47	0.00	1384.81	0.765	-10.340	0.152	1163.393	0.000
25.393		163.47	-2.73	0.48	77.57	0.47	0.00	1385.28	0.688	-10.417	0.153	1176.984	0.000
25.403		163.47	-2.73	0.48	78.37	0.46	0.00	1385.74	0.612	-10.494	0.153	1190.533	0.000
25.413		163.47	-2.73	0.48	79.16	0.46	0.00	1386.19	0.535	-10.570	0.153	1204.043	0.000
25.424		163.47	-2.73	0.48	80.00	0.49	0.00	1386.68	0.455	-10.650	0.165	1218.052	0.000
25.434		163.47	-2.73	0.00	80.00	0.45	0.00	1387.13	-12.212	1.934	0.000	0.000	0.075
25.448		163.47	-2.73	0.00	80.00	0.64	0.00	1387.77	-12.212	1.934	0.000	0.000	0.108
25.458		163.47	-0.44	0.00	79.97	0.45	0.00	1388.22	-7.687	-5.403	0.024	190.000	0.000
25.468		163.47	-0.44	0.00	79.95	0.45	0.00	1388.67	-7.682	-5.398	0.024	190.000	0.000
25.478		163.47	-0.44	0.00	79.92	0.45	0.00	1389.12	-7.676	-5.393	0.024	190.000	0.000
25.488		163.47	-0.44	0.00	79.89	0.45	0.00	1389.57	-7.671	-5.388	0.024	190.000	0.000
25.498		163.47	-0.44	0.00	79.87	0.45	0.00	1390.02	-7.666	-5.383	0.024	190.000	0.000
25.508		163.47	-0.44	0.00	79.84	0.45	0.00	1390.47	-7.661	-5.377	0.024	190.000	0.000
25.518		163.47	-0.44	0.00	79.82	0.45	0.00	1390.93	-7.656	-5.372	0.024	190.000	0.000
25.528		163.47	-0.44	0.00	79.79	0.45	0.00	1391.38	-7.650	-5.367	0.024	190.000	0.000
25.538		163.47	-0.44	0.00	79.76	0.45	0.00	1391.83	-7.645	-5.362	0.024	190.000	0.000
25.548		163.47	-0.44	0.00	79.74	0.45	0.00	1392.28	-7.640	-5.357	0.024	190.000	0.000
25.558		163.47	-0.44	0.00	79.71	0.45	0.00	1392.73	-7.635	-5.352	0.024	190.000	0.000
25.568		163.47	-0.44	0.00	79.69	0.45	0.00	1393.18	-7.630	-5.347	0.024	190.000	0.000
25.578		163.47	-0.44	0.00	79.66	0.45	0.00	1393.63	-7.625	-5.341	0.024	190.000	0.000
25.588		163.47	-0.44	0.00	79.63	0.45	0.00	1394.09	-7.620	-5.336	0.024	190.000	0.000
25.598		163.47	-0.44	0.00	79.61	0.45	0.00	1394.54	-7.615	-5.331	0.024	190.000	0.000
25.608		163.47	-0.44	0.00	79.58	0.45	0.00	1394.99	-7.610	-5.326	0.024	190.000	0.000
25.618		163.47	-0.44	0.00	79.56	0.45	0.00	1395.44	-7.604	-5.321	0.024	190.000	0.000
25.628		163.47	-0.44	0.00	79.53	0.45	0.00	1395.90	-7.599	-5.316	0.024	190.000	0.000
25.638		163.47	-0.44	0.00	79.51	0.45	0.00	1396.35	-7.594	-5.311	0.024	190.000	0.000
25.648		163.47	-0.44	0.00	79.48	0.45	0.00	1396.80	-7.589	-5.306	0.024	190.000	0.000
25.658		163.47	-0.44	0.00	79.45	0.45	0.00	1397.25	-7.584	-5.301	0.024	190.000	0.000
25.668		163.47	-0.44	0.00	79.43	0.45	0.00	1397.71	-7.579	-5.296	0.024	190.000	0.000
25.678		163.47	-0.44	0.00	79.40	0.45	0.00	1398.16	-7.574	-5.291	0.024	190.000	0.000
25.688		163.47	-0.44	0.00	79.38	0.45	0.00	1398.61	-7.569	-5.286	0.024	190.000	0.000
25.698		163.47	-0.44	0.00	79.35	0.45	0.00	1399.07	-7.564	-5.281	0.024	190.000	0.000
25.708		163.47	-0.44	0.00	79.33	0.45	0.00	1399.52	-7.559	-5.276	0.024	190.000	0.000
25.718		163.47	-0.44	0.00	79.30	0.45	0.00	1399.98	-7.554	-5.271	0.024	190.000	0.000
25.728		163.47	-0.44	0.00	79.28	0.45	0.00	1400.43	-7.549	-5.266	0.024	190.000	0.000
25.738		163.47	-0.44	0.00	79.25	0.45	0.00	1400.88	-7.544	-5.261	0.024	190.000	0.000
25.748		163.47	-0.44	0.00	79.23	0.45	0.00	1401.34	-7.539	-5.256	0.024	190.000	0.000
25.758		163.47	-0.44	0.00	79.20	0.45	0.00	1401.79	-7.534	-5.251	0.024	190.000	0.000
25.768		163.47	-0.44	0.00	79.18	0.45	0.00	1402.25	-7.529	-5.246	0.024	190.000	0.000
25.778		163.47	-0.44	0.00	79.15	0.45	0.00	1402.70	-7.524	-5.241	0.024	190.000	0.000
25.788		163.47	-0.44	0.00	79.12	0.45	0.00	1403.16	-7.520	-5.236	0.024	190.000	0.000
25.798		163.47	0.47	0.00	78.95	0.46	0.00	1403.61	-12.874	-15.313	0.024	190.000	0.000
25.808		163.47	0.47	0.00	78.78	0.46	0.00	1404.07	-12.841	-15.279	0.024	190.000	0.000
25.818		163.47	0.47	0.00	78.61	0.46	0.00	1404.53	-12.807	-15.246	0.024	190.000	0.000
25.828		163.47	0.47	0.00	78.44	0.46	0.00	1404.98	-12.774	-15.212	0.024	190.000	0.000
25.838		163.47	0.47	0.00	78.27	0.46	0.00	1405.44	-12.740	-15.179	0.024	190.000	0.000
25.848		163.47	0.47	0.00	78.09	0.46	0.00	1405.90	-12.707	-15.146	0.024	190.000	0.000
25.858		163.47	0.47	0.00	77.92	0.46	0.00	1406.37	-12.674	-15.112	0.024	190.000	0.000
25.868		163.47	0.47	0.00	77.75	0.46	0.00	1406.83	-12.640	-15.079	0.024	190.000	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
25.878		163.47	0.47	0.00	77.58	0.46	0.00	1407.29	-12.607	-15.046	0.024	190.000	0.000
25.888		163.47	0.47	0.00	77.40	0.46	0.00	1407.76	-12.574	-15.013	0.025	190.000	0.000
25.898		163.47	0.47	0.00	77.23	0.47	0.00	1408.22	-12.541	-14.980	0.025	190.000	0.000
25.908		163.47	0.47	0.00	77.06	0.47	0.00	1408.69	-12.508	-14.947	0.025	190.000	0.000
25.918		163.47	0.47	0.00	76.89	0.47	0.00	1409.16	-12.475	-14.914	0.025	190.000	0.000
25.928		163.47	0.47	0.00	76.71	0.47	0.00	1409.63	-12.442	-14.881	0.025	190.000	0.000
25.938		163.47	0.47	0.00	76.54	0.47	0.00	1410.10	-12.409	-14.848	0.025	190.000	0.000
25.948		163.47	0.47	0.00	76.37	0.47	0.00	1410.57	-12.376	-14.815	0.025	190.000	0.000
25.958		163.47	0.47	0.00	76.20	0.47	0.00	1411.04	-12.344	-14.782	0.025	190.000	0.000
25.968		163.47	0.47	0.00	76.02	0.47	0.00	1411.51	-12.311	-14.750	0.025	190.000	0.000
25.978		163.47	0.47	0.00	75.85	0.47	0.00	1411.99	-12.278	-14.717	0.025	190.000	0.000
25.988		163.47	0.47	0.00	75.68	0.48	0.00	1412.46	-12.246	-14.684	0.025	190.000	0.000
25.998		163.47	0.47	0.00	75.50	0.48	0.00	1412.94	-12.213	-14.652	0.025	190.000	0.000
26.008		163.47	0.47	0.00	75.33	0.48	0.00	1413.41	-12.181	-14.619	0.025	190.000	0.000
26.018		163.47	0.47	0.00	75.16	0.48	0.00	1413.89	-12.148	-14.587	0.025	190.000	0.000
26.028		163.47	0.47	0.00	74.99	0.48	0.00	1414.37	-12.116	-14.555	0.025	190.000	0.000
26.038		163.47	0.47	0.00	74.81	0.48	0.00	1414.85	-12.084	-14.522	0.025	190.000	0.000
26.048		163.47	0.47	0.00	74.64	0.48	0.00	1415.33	-12.051	-14.490	0.025	190.000	0.000
26.058		163.47	0.47	0.00	74.46	0.48	0.00	1415.82	-12.019	-14.458	0.025	190.000	0.000
26.068		163.47	0.47	0.00	74.29	0.48	0.00	1416.30	-11.987	-14.426	0.026	190.000	0.000
26.078		163.47	0.47	0.00	74.12	0.49	0.00	1416.79	-11.955	-14.394	0.026	190.000	0.000
26.088		163.47	0.47	0.00	73.94	0.49	0.00	1417.27	-11.923	-14.362	0.026	190.000	0.000
26.098		163.47	0.47	0.00	73.77	0.49	0.00	1417.76	-11.891	-14.330	0.026	190.000	0.000
26.108		163.47	0.47	0.00	73.60	0.49	0.00	1418.25	-11.859	-14.298	0.026	190.000	0.000
26.118		163.47	0.47	0.00	73.42	0.49	0.00	1418.74	-11.827	-14.266	0.026	190.000	0.000
26.128		163.47	0.47	0.00	73.25	0.49	0.00	1419.23	-11.795	-14.234	0.026	190.000	0.000
26.138		163.47	2.81	0.00	72.67	0.49	0.00	1419.72	-25.521	-40.081	0.026	190.000	0.000
26.148		163.47	2.81	0.00	72.08	0.50	0.00	1420.22	-25.415	-39.975	0.026	190.000	0.000
26.158		163.47	2.81	0.00	71.49	0.50	0.00	1420.72	-25.309	-39.869	0.026	190.000	0.000
26.168		163.47	2.81	0.00	70.90	0.51	0.00	1421.23	-25.204	-39.764	0.027	190.000	0.000
26.178		163.47	2.81	0.00	70.30	0.51	0.00	1421.74	-25.098	-39.658	0.027	190.000	0.000
26.188		163.47	2.81	0.00	69.70	0.51	0.00	1422.25	-24.993	-39.553	0.027	190.000	0.000
26.198		163.47	2.81	0.00	69.09	0.52	0.00	1422.77	-24.888	-39.448	0.027	190.000	0.000
26.208		163.47	2.81	0.00	68.48	0.52	0.00	1423.29	-24.783	-39.342	0.028	190.000	0.000
26.218		163.47	2.81	0.00	67.87	0.53	0.00	1423.82	-24.678	-39.238	0.028	190.000	0.000
26.228		163.47	2.81	0.00	67.25	0.53	0.00	1424.35	-24.573	-39.133	0.028	190.000	0.000
26.238		163.47	2.81	0.00	66.62	0.54	0.00	1424.89	-24.468	-39.028	0.028	190.000	0.000
26.248		163.47	2.81	0.00	66.00	0.54	0.00	1425.44	-24.364	-38.923	0.029	190.000	0.000
26.258		163.47	2.81	0.00	65.36	0.55	0.00	1425.98	-24.259	-38.819	0.029	190.000	0.000
26.268		163.47	2.81	0.00	64.73	0.55	0.00	1426.54	-24.155	-38.714	0.029	190.000	0.000
26.278		163.47	2.81	0.00	64.08	0.56	0.00	1427.10	-24.050	-38.610	0.030	190.000	0.000
26.295		163.47	2.81	0.00	63.01	0.94	0.00	1428.03	-23.946	-38.506	0.049	190.000	0.000
26.305		163.47	2.81	0.00	62.35	0.57	0.00	1428.61	-23.774	-38.334	0.030	190.000	0.000
26.315		163.47	2.81	0.00	61.69	0.58	0.00	1429.19	-23.670	-38.230	0.031	190.000	0.000
26.320		163.47	2.81	0.00	61.32	0.32	0.00	1429.51	-23.566	-38.126	0.017	190.000	0.000
26.330		163.47	0	0.00	61.24	0.59	0.00	1430.09	-6.984	-6.984	0.031	190.000	0.000
26.340		163.47	0	0.00	61.15	0.59	0.00	1430.68	-6.971	-6.971	0.031	190.000	0.000
26.350		163.47	0	0.00	61.07	0.59	0.00	1431.27	-6.958	-6.958	0.031	190.000	0.000
26.360		163.47	0	0.00	60.98	0.59	0.00	1431.86	-6.944	-6.944	0.031	190.000	0.000
26.370		163.47	0	0.00	60.90	0.59	0.00	1432.45	-6.931	-6.931	0.031	190.000	0.000
26.383		163.47	0	0.00	60.78	0.78	0.00	1433.23	-6.918	-6.918	0.041	190.000	0.000
26.390		163.47	0	-1.23	58.96	0.41	0.00	1433.64	-35.840	29.079	0.000	0.000	0.370
26.400		163.47	0	-1.23	56.19	0.63	0.00	1434.27	-35.669	29.250	0.000	0.000	0.539
26.410		163.47	0	-1.23	53.28	0.66	0.00	1434.93	-35.465	29.454	0.000	0.000	0.538
26.420		163.47	0	-1.23	50.20	0.70	0.00	1435.62	-35.261	29.659	0.000	0.000	0.537
26.430		163.47	0	-1.23	46.91	0.74	0.00	1436.36	-35.054	29.865	0.000	0.000	0.536
26.440		163.47	0	-1.23	43.38	0.80	0.00	1437.16	-34.846	30.073	0.000	0.000	0.534
26.450		163.47	0	-1.23	39.54	0.87	0.00	1438.03	-34.636	30.283	0.000	0.000	0.532
26.460		163.47	0	-1.23	35.28	0.96	0.00	1438.99	-34.423	30.496	0.000	0.000	0.528
26.470		163.47	0	-1.23	30.42	1.10	0.00	1440.09	-34.206	30.714	0.000	0.000	0.522
26.480		163.47	0	-1.23	24.63	1.31	0.00	1441.39	-33.982	30.937	0.000	0.000	0.512
26.490		163.47	0	-1.23	16.95	1.73	0.00	1443.13	-33.798	31.228	0.000	0.000	0.492
26.499	Phaholyothin	163.47	0	-1.23	0.00	3.82	30.00	1476.95	-33.499	31.527	0.000	0.000	0.325
26.509		163.47	0	1.30	18.33	3.93	0.00	1480.87	33.218	-35.214	0.834	764.979	0.000
26.519		163.47	0	1.30	25.93	1.63	0.00	1482.50	32.888	-35.544	0.715	1581.835	0.000
26.529		163.47	0	1.30	31.75	1.25	0.00	1483.75	32.642	-35.790	0.696	2007.819	0.000
26.539		163.47	0	1.30	36.68	1.05	0.00	1484.80	32.498	-36.116	0.689	2356.757	0.000
26.549		163.47	0	1.11	40.40	0.93	0.00	1485.74	27.192	-31.233	0.591	2278.434	0.000
26.559		163.47	0	0.97	43.39	0.86	0.00	1486.59	23.307	-27.708	0.521	2182.545	0.000
26.562	(Start of Curve)	163.47	0	0.97	44.25	0.25	0.00	1486.84	23.199	-27.817	0.156	2276.693	0.000
26.572		163.47	0	0.97	46.99	0.79	0.00	1487.63	23.093	-27.923	0.518	2365.174	0.000
26.582		163.47	0	0.86	49.30	0.75	0.00	1488.38	20.047	-25.185	0.465	2236.800	0.000
26.592		163.47	0	0.86	51.50	0.71	0.00	1489.09	19.903	-25.329	0.464	2336.704	0.000
26.600		163.47	0	0.77	54.88	1.22	0.00	1490.31	17.415	-23.214	0.758	2238.664	0.000
26.620		163.47	-0.51	0.77	56.67	0.65	0.00	1490.96	15.910	-22.068	0.396	2209.405	0.000
26.630		163.47	-0.51	0.70	58.24	0.63	0.00	1491.58	13.906	-20.307	0.362	2077.687	0.000
26.642		163.47	-0.51	0.70	60.00	0.70	0.00	1492.28	13.782	-20.431	0.416	2136.550	0.000
26.652		163.47	-0.51	0.00	60.00	0.60	0.00	1492.88	-4.716	-2.065	0.026	158.543	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
26.662		163.47	-0.51	0.00	60.00	0.60	0.00	1493.48	-4.716	-2.065	0.026	158.543	0.000
26.672		163.47	-0.51	0.00	60.00	0.60	0.00	1494.08	-4.716	-2.065	0.026	158.543	0.000
26.682		163.47	-0.51	0.00	60.00	0.60	0.00	1494.68	-4.716	-2.065	0.026	158.543	0.000
26.692		163.47	-0.51	0.00	60.00	0.60	0.00	1495.28	-4.716	-2.065	0.026	158.543	0.000
26.702		163.47	-0.51	0.00	60.00	0.60	0.00	1495.88	-4.716	-2.065	0.026	158.543	0.000
26.712		163.47	-0.51	0.00	60.00	0.60	0.00	1496.48	-4.716	-2.065	0.026	158.543	0.000
26.722		163.47	-0.51	0.00	60.00	0.60	0.00	1497.08	-4.716	-2.065	0.026	158.543	0.000
26.732		163.47	-0.51	0.00	60.00	0.60	0.00	1497.68	-4.716	-2.065	0.026	158.543	0.000
26.742		163.47	-0.51	0.00	60.00	0.60	0.00	1498.28	-4.716	-2.065	0.026	158.543	0.000
26.752		163.47	-0.51	0.00	60.00	0.60	0.00	1498.88	-4.716	-2.065	0.026	158.543	0.000
26.762		163.47	-0.51	0.00	60.00	0.60	0.00	1499.48	-4.716	-2.065	0.026	158.543	0.000
26.772		163.47	-0.51	0.00	60.00	0.60	0.00	1500.08	-4.716	-2.065	0.026	158.543	0.000
26.782		163.47	-0.51	0.00	60.00	0.60	0.00	1500.68	-4.716	-2.065	0.026	158.543	0.000
26.792		163.47	-0.51	0.00	60.00	0.60	0.00	1501.28	-4.716	-2.065	0.026	158.543	0.000
26.802		163.47	-0.51	0.00	60.00	0.60	0.00	1501.88	-4.716	-2.065	0.026	158.543	0.000
26.812		163.47	-0.51	0.00	60.00	0.60	0.00	1502.48	-4.716	-2.065	0.026	158.543	0.000
26.822		163.47	-0.51	0.00	60.00	0.60	0.00	1503.08	-4.716	-2.065	0.026	158.543	0.000
26.832		163.47	-0.51	0.00	60.00	0.60	0.00	1503.68	-4.716	-2.065	0.026	158.543	0.000
26.842		163.47	-0.51	0.00	60.00	0.60	0.00	1504.28	-4.716	-2.065	0.026	158.543	0.000
26.852		163.47	-0.51	0.00	60.00	0.60	0.00	1504.88	-4.716	-2.065	0.026	158.543	0.000
26.862		163.47	-0.51	0.00	60.00	0.60	0.00	1505.48	-4.716	-2.065	0.026	158.543	0.000
26.872		163.47	-0.51	0.00	60.00	0.60	0.00	1506.08	-4.716	-2.065	0.026	158.543	0.000
26.882		163.47	-0.51	0.00	60.00	0.60	0.00	1506.68	-4.716	-2.065	0.026	158.543	0.000
26.892		163.47	-0.51	0.00	60.00	0.60	0.00	1507.28	-4.716	-2.065	0.026	158.543	0.000
26.902		163.47	-0.51	0.00	60.00	0.60	0.00	1507.88	-4.716	-2.065	0.026	158.543	0.000
26.912		163.47	-0.51	0.00	60.00	0.60	0.00	1508.48	-4.716	-2.065	0.026	158.543	0.000
26.922		163.47	-0.51	0.00	60.00	0.60	0.00	1509.08	-4.716	-2.065	0.026	158.543	0.000
26.932		163.47	-0.51	0.00	60.00	0.60	0.00	1509.68	-4.716	-2.065	0.026	158.543	0.000
26.942		163.47	-0.51	0.00	60.00	0.60	0.00	1510.28	-4.716	-2.065	0.026	158.543	0.000
26.952		163.47	-0.51	0.00	60.00	0.60	0.00	1510.88	-4.716	-2.065	0.026	158.543	0.000
26.962		163.47	-0.51	0.00	60.00	0.60	0.00	1511.48	-4.716	-2.065	0.026	158.543	0.000
26.972		163.47	-0.51	0.00	60.00	0.60	0.00	1512.08	-4.716	-2.065	0.026	158.543	0.000
26.982		163.47	-0.51	0.00	60.00	0.60	0.00	1512.68	-4.716	-2.065	0.026	158.543	0.000
26.992		163.47	-0.51	0.00	60.00	0.60	0.00	1513.28	-4.716	-2.065	0.026	158.543	0.000
27.002		163.47	-0.51	0.00	60.00	0.60	0.00	1513.88	-4.716	-2.065	0.026	158.543	0.000
27.013	(End of Curve)	163.47	-0.51	0.00	60.00	0.69	0.00	1514.57	-4.716	-2.065	0.030	158.543	0.000
27.023		163.47	-0.51	0.00	60.00	0.60	0.00	1515.17	-4.716	-2.065	0.026	158.543	0.000
27.030		163.47	-0.51	0.00	60.00	0.42	0.00	1515.59	-4.716	-2.065	0.018	158.543	0.000
27.040		163.47	-1.24	0.00	60.00	0.60	0.00	1516.19	-6.588	-0.193	0.000	0.000	0.008
27.050		163.47	-1.24	0.00	60.00	0.60	0.00	1516.79	-6.588	-0.193	0.000	0.000	0.008
27.060		163.47	-1.24	0.00	60.00	0.60	0.00	1517.39	-6.588	-0.193	0.000	0.000	0.008
27.077		163.47	-1.24	0.00	60.00	1.02	0.00	1518.41	-6.588	-0.193	0.000	0.000	0.013
27.087		163.47	-1.24	0.64	61.37	0.59	0.00	1519.00	10.205	-17.090	0.298	1810.653	0.000
27.097		163.47	-1.24	0.64	62.70	0.58	0.00	1519.58	10.100	-17.195	0.298	1850.267	0.000
27.107		163.47	-1.24	0.64	64.01	0.57	0.00	1520.15	9.996	-17.299	0.298	1889.260	0.000
27.117		163.47	-1.24	0.64	65.29	0.56	0.00	1520.71	9.892	-17.404	0.298	1927.675	0.000
27.127		163.47	-1.24	0.59	66.44	0.55	0.00	1521.26	8.451	-16.163	0.274	1803.630	0.000
27.137		163.47	-1.24	0.59	67.58	0.54	0.00	1521.79	8.355	-16.258	0.274	1835.266	0.000
27.147		163.47	-1.24	0.59	68.70	0.53	0.00	1522.32	8.260	-16.354	0.274	1866.545	0.000
27.157		163.47	-1.24	0.59	69.80	0.52	0.00	1522.84	8.165	-16.449	0.274	1897.485	0.000
27.167		163.47	-1.24	0.59	70.88	0.51	0.00	1523.35	8.069	-16.544	0.274	1928.106	0.000
27.177		163.47	-1.24	0.54	71.87	0.50	0.00	1523.86	6.834	-15.492	0.253	1809.008	0.000
27.187		163.47	-1.24	0.54	72.84	0.50	0.00	1524.36	6.746	-15.580	0.254	1834.803	0.000
27.197		163.47	-1.24	0.54	73.80	0.49	0.00	1524.85	6.658	-15.667	0.254	1860.391	0.000
27.207		163.47	-1.24	0.54	74.75	0.48	0.00	1525.33	6.571	-15.755	0.254	1885.781	0.000
27.217		163.47	-1.24	0.54	75.69	0.48	0.00	1525.81	6.483	-15.843	0.254	1910.982	0.000
27.227		163.47	-1.24	0.48	76.50	0.47	0.00	1526.28	4.666	-14.190	0.223	1694.681	0.000
27.237		163.47	-1.24	0.48	77.31	0.47	0.00	1526.75	4.589	-14.267	0.223	1713.992	0.000
27.247		163.47	-1.24	0.48	78.11	0.46	0.00	1527.21	4.512	-14.344	0.223	1733.201	0.000
27.257		163.47	-1.24	0.48	78.90	0.46	0.00	1527.67	4.436	-14.421	0.223	1752.313	0.000
27.271		163.47	-1.24	0.48	80.00	0.64	0.00	1528.31	4.343	-14.513	0.315	1775.196	0.000
27.281		163.47	-1.24	0.00	80.00	0.45	0.00	1528.76	-8.336	-1.942	0.000	0.000	0.005
27.285		163.47	-1.24	0.00	80.00	0.18	0.00	1528.94	-8.336	-1.942	0.000	0.000	0.002
27.295		163.47	0.48	0.00	79.83	0.45	0.00	1529.39	-13.087	-15.562	0.024	190.000	0.000
27.305		163.47	0.48	0.00	79.65	0.45	0.00	1529.84	-13.053	-15.528	0.024	190.000	0.000
27.315		163.47	0.48	0.00	79.48	0.45	0.00	1530.29	-13.019	-15.494	0.024	190.000	0.000
27.325		163.47	0.48	0.00	79.31	0.45	0.00	1530.75	-12.985	-15.460	0.024	190.000	0.000
27.335		163.47	0.48	0.00	79.14	0.45	0.00	1531.20	-12.951	-15.426	0.024	190.000	0.000
27.345		163.47	0.48	0.00	78.96	0.46	0.00	1531.66	-12.918	-15.393	0.024	190.000	0.000
27.355		163.47	0.48	0.00	78.79	0.46	0.00	1532.11	-12.884	-15.359	0.024	190.000	0.000
27.365		163.47	0.48	0.00	78.62	0.46	0.00	1532.57	-12.850	-15.325	0.024	190.000	0.000
27.375		163.47	0.48	0.00	78.44	0.46	0.00	1533.03	-12.816	-15.291	0.024	190.000	0.000
27.385		163.47	0.48	0.00	78.27	0.46	0.00	1533.49	-12.783	-15.258	0.024	190.000	0.000
27.395		163.47	0.48	0.00	78.10	0.46	0.00	1533.95	-12.749	-15.224	0.024	190.000	0.000
27.405		163.47	0.48	0.00	77.92	0.46	0.00	1534.41	-12.716	-15.191	0.024	190.000	0.000
27.415		163.47	0.48	0.00	77.75	0.46	0.00	1534.87	-12.682	-15.157	0.024	190.000	0.000
27.425		163.47	0.48	0.00	77.58	0.46	0.00	1535.33	-12.649	-15.124	0.024	190.000	0.000
27.435		163.47	0.48	0.00	77.40	0.46	0.00	1535.80	-12.615	-15.090	0.025	190.000	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time,sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
27.445		163.47	0.48	0.00	77.23	0.47	0.00	1536.26	-12.582	-15.057	0.025	190.000	0.000
27.455		163.47	0.48	0.00	77.06	0.47	0.00	1536.73	-12.549	-15.024	0.025	190.000	0.000
27.465		163.47	0.48	0.00	76.88	0.47	0.00	1537.20	-12.516	-14.991	0.025	190.000	0.000
27.475		163.47	0.48	0.00	76.71	0.47	0.00	1537.67	-12.483	-14.957	0.025	190.000	0.000
27.485		163.47	0.48	0.00	76.54	0.47	0.00	1538.14	-12.449	-14.924	0.025	190.000	0.000
27.495		163.47	0.48	0.00	76.36	0.47	0.00	1538.61	-12.416	-14.891	0.025	190.000	0.000
27.505		163.47	0.48	0.00	76.19	0.47	0.00	1539.08	-12.383	-14.858	0.025	190.000	0.000
27.515		163.47	0.48	0.00	76.01	0.47	0.00	1539.55	-12.351	-14.826	0.025	190.000	0.000
27.525		163.47	0.48	0.00	75.84	0.47	0.00	1540.03	-12.318	-14.793	0.025	190.000	0.000
27.535		163.47	0.48	0.00	75.67	0.48	0.00	1540.50	-12.285	-14.760	0.025	190.000	0.000
27.545		163.47	0.48	0.00	75.49	0.48	0.00	1540.98	-12.252	-14.727	0.025	190.000	0.000
27.555		163.47	0.48	0.00	75.32	0.48	0.00	1541.46	-12.219	-14.694	0.025	190.000	0.000
27.565		163.47	0.48	0.00	75.14	0.48	0.00	1541.94	-12.187	-14.662	0.025	190.000	0.000
27.575		163.47	0.48	0.00	74.97	0.48	0.00	1542.42	-12.154	-14.629	0.025	190.000	0.000
27.585		163.47	0.48	0.00	74.79	0.48	0.00	1542.90	-12.122	-14.597	0.025	190.000	0.000
27.595		163.47	0.48	0.00	74.62	0.48	0.00	1543.38	-12.089	-14.564	0.025	190.000	0.000
27.603		163.47	0.48	0.00	74.48	0.39	0.00	1543.76	-12.057	-14.532	0.020	190.000	0.000
27.613		163.47	2.8	0.00	73.91	0.49	0.00	1544.25	-25.653	-40.130	0.026	190.000	0.000
27.623		163.47	2.8	0.00	73.33	0.49	0.00	1544.74	-25.548	-40.024	0.026	190.000	0.000
27.633		163.47	2.8	0.00	72.75	0.49	0.00	1545.23	-25.442	-39.919	0.026	190.000	0.000
27.643		163.47	2.8	0.00	72.17	0.50	0.00	1545.73	-25.337	-39.814	0.026	190.000	0.000
27.653		163.47	2.8	0.00	71.58	0.50	0.00	1546.23	-25.232	-39.708	0.026	190.000	0.000
27.663		163.47	2.8	0.00	70.99	0.50	0.00	1546.73	-25.127	-39.603	0.027	190.000	0.000
27.673		163.47	2.8	0.00	70.40	0.51	0.00	1547.24	-25.022	-39.498	0.027	190.000	0.000
27.683		163.47	2.8	0.00	69.80	0.51	0.00	1547.76	-24.917	-39.394	0.027	190.000	0.000
27.693		163.47	2.8	0.00	69.20	0.52	0.00	1548.27	-24.812	-39.289	0.027	190.000	0.000
27.703		163.47	2.8	0.00	68.59	0.52	0.00	1548.80	-24.707	-39.184	0.028	190.000	0.000
27.713		163.47	2.8	0.00	67.98	0.53	0.00	1549.32	-24.603	-39.080	0.028	190.000	0.000
27.723		163.47	2.8	0.00	67.37	0.53	0.00	1549.86	-24.499	-38.975	0.028	190.000	0.000
27.733		163.47	2.8	0.00	66.75	0.54	0.00	1550.39	-24.394	-38.871	0.028	190.000	0.000
27.743		163.47	2.8	0.00	66.12	0.54	0.00	1550.93	-24.290	-38.767	0.029	190.000	0.000
27.755		163.47	2.8	0.00	65.37	0.66	0.00	1551.59	-24.186	-38.663	0.035	190.000	0.000
27.765		163.47	0	0.00	65.28	0.55	0.00	1552.14	-7.630	-7.630	0.029	190.000	0.000
27.775		163.47	0	0.00	65.19	0.55	0.00	1552.69	-7.616	-7.616	0.029	190.000	0.000
27.785		163.47	0	0.00	65.11	0.55	0.00	1553.25	-7.601	-7.601	0.029	190.000	0.000
27.795		163.47	0	0.00	65.02	0.55	0.00	1553.80	-7.587	-7.587	0.029	190.000	0.000
27.805		163.47	0	0.00	64.93	0.55	0.00	1554.35	-7.573	-7.573	0.029	190.000	0.000
27.815		163.47	0	0.00	64.84	0.55	0.00	1554.91	-7.558	-7.558	0.029	190.000	0.000
27.825		163.47	0	0.00	64.76	0.56	0.00	1555.47	-7.544	-7.544	0.029	190.000	0.000
27.835		163.47	0	0.00	64.67	0.56	0.00	1556.02	-7.530	-7.530	0.029	190.000	0.000
27.845		163.47	0	0.00	64.58	0.56	0.00	1556.58	-7.516	-7.516	0.029	190.000	0.000
27.855		163.47	0	0.00	64.49	0.56	0.00	1557.14	-7.501	-7.501	0.029	190.000	0.000
27.865		163.47	0	0.00	64.41	0.56	0.00	1557.69	-7.487	-7.487	0.029	190.000	0.000
27.875		163.47	0	0.00	64.32	0.56	0.00	1558.25	-7.473	-7.473	0.030	190.000	0.000
27.885		163.47	0	0.00	64.23	0.56	0.00	1558.81	-7.459	-7.459	0.030	190.000	0.000
27.895		163.47	0	0.00	64.15	0.56	0.00	1559.38	-7.445	-7.445	0.030	190.000	0.000
27.905		163.47	0	0.00	64.06	0.56	0.00	1559.94	-7.431	-7.431	0.030	190.000	0.000
27.915		163.47	0	0.00	63.97	0.56	0.00	1560.50	-7.417	-7.417	0.030	190.000	0.000
27.925		163.47	0	0.00	63.88	0.56	0.00	1561.06	-7.403	-7.403	0.030	190.000	0.000
27.935		163.47	0	0.00	63.80	0.56	0.00	1561.63	-7.389	-7.389	0.030	190.000	0.000
27.946		163.47	0	0.00	63.70	0.63	0.00	1562.25	-7.375	-7.375	0.033	190.000	0.000
27.956		163.47	0	0.00	63.61	0.57	0.00	1562.82	-7.359	-7.359	0.030	190.000	0.000
27.966		163.47	0	0.00	63.53	0.57	0.00	1563.38	-7.345	-7.345	0.030	190.000	0.000
27.976		163.47	0	0.00	63.44	0.57	0.00	1563.95	-7.331	-7.331	0.030	190.000	0.000
27.986		163.47	0	0.00	63.35	0.57	0.00	1564.52	-7.318	-7.318	0.030	190.000	0.000
27.996		163.47	0	0.00	63.27	0.57	0.00	1565.09	-7.304	-7.304	0.030	190.000	0.000
28.006		163.47	0	0.00	63.18	0.57	0.00	1565.66	-7.290	-7.290	0.030	190.000	0.000
28.025		163.47	0	0.00	63.01	1.11	0.00	1566.76	-7.276	-7.276	0.058	190.000	0.000
28.026		163.47	0	-1.23	62.89	0.03	0.00	1566.79	-36.079	28.840	0.000	0.000	0.027
28.036		163.47	0	-1.23	60.30	0.58	0.00	1567.38	-35.973	28.947	0.000	0.000	0.539
28.046		163.47	0	-1.23	57.59	0.61	0.00	1567.99	-35.771	29.149	0.000	0.000	0.539
28.056		163.47	0	-1.23	54.76	0.64	0.00	1568.63	-35.568	29.352	0.000	0.000	0.539
28.066		163.47	0	-1.23	51.76	0.68	0.00	1569.31	-35.363	29.556	0.000	0.000	0.538
28.076		163.47	0	-1.23	48.58	0.72	0.00	1570.02	-35.158	29.761	0.000	0.000	0.537
28.086		163.47	0	-1.23	45.18	0.77	0.00	1570.79	-34.951	29.969	0.000	0.000	0.535
28.096		163.47	0	-1.23	41.51	0.83	0.00	1571.62	-34.742	30.178	0.000	0.000	0.533
28.106		163.47	0	-1.23	37.47	0.91	0.00	1572.53	-34.530	30.389	0.000	0.000	0.530
28.116		163.47	0	-1.23	32.94	1.02	0.00	1573.56	-34.315	30.604	0.000	0.000	0.525
28.126		163.47	0	-1.23	27.68	1.19	0.00	1574.74	-34.095	30.824	0.000	0.000	0.518
28.136		163.47	0	-1.23	21.14	1.47	0.00	1576.22	-33.919	31.107	0.000	0.000	0.505
28.146		163.47	0	-1.23	11.30	2.22	0.00	1578.44	-33.667	31.359	0.000	0.000	0.467
28.150	Mo Chit	163.47	0	-1.23	0.00	2.55	30.00	1610.98	-33.454	31.572	0.000	0.000	0.100
28.160		163.47	0	1.30	18.33	3.93	0.00	1614.91	33.218	-35.214	0.834	764.978	0.000
28.170		163.47	0	1.30	25.93	1.63	0.00	1616.54	32.888	-35.544	0.715	1581.835	0.000
28.180		163.47	0	1.30	31.75	1.25	0.00	1617.79	32.642	-35.790	0.696	2007.819	0.000
28.190		163.47	0	1.30	36.68	1.05	0.00	1618.84	32.498	-36.116	0.689	2356.757	0.000
28.200		163.47	0	1.11	40.40	0.93	0.00	1619.77	27.192	-31.233	0.591	2278.434	0.000
28.210		163.47	0	0.97	43.39	0.86	0.00	1620.63	23.307	-27.708	0.521	2182.545	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
28.220		163.47	0	0.97	46.19	0.80	0.00	1621.43	23.142	-27.873	0.519	2324.272	0.000
28.230		163.47	0	0.86	48.53	0.76	0.00	1622.20	20.095	-25.136	0.465	2202.038	0.000
28.240		163.47	0	0.86	50.77	0.73	0.00	1622.92	19.951	-25.280	0.464	2303.351	0.000
28.250		163.47	0	0.77	52.70	0.70	0.00	1623.62	17.514	-23.115	0.421	2179.655	0.000
28.260		163.47	0	0.77	54.56	0.67	0.00	1624.29	17.386	-23.243	0.421	2256.335	0.000
28.273		163.47	0	0.77	56.88	0.84	0.00	1625.13	17.239	-23.390	0.546	2341.553	0.000
28.283		163.47	-2.53	0.70	58.45	0.62	0.00	1625.75	8.668	-15.101	0.267	1538.154	0.000
28.293		163.47	-2.53	0.70	59.98	0.61	0.00	1626.36	8.553	-15.216	0.266	1578.152	0.000
28.303		163.47	-2.53	0.70	61.47	0.59	0.00	1626.95	8.439	-15.331	0.266	1617.409	0.000
28.313		163.47	-2.53	0.64	62.80	0.58	0.00	1627.53	6.742	-13.853	0.237	1475.198	0.000
28.323		163.47	-2.53	0.64	64.11	0.57	0.00	1628.10	6.638	-13.958	0.237	1506.126	0.000
28.333		163.47	-2.53	0.64	65.39	0.56	0.00	1628.65	6.533	-14.062	0.237	1536.642	0.000
28.343		163.47	-2.53	0.59	66.54	0.55	0.00	1629.20	5.093	-12.821	0.213	1404.916	0.000
28.353		163.47	-2.53	0.59	67.67	0.54	0.00	1629.74	4.997	-12.916	0.213	1429.557	0.000
28.363		163.47	-2.53	0.59	68.79	0.53	0.00	1630.26	4.902	-13.012	0.213	1453.958	0.000
28.373		163.47	-2.53	0.59	69.89	0.52	0.00	1630.78	4.806	-13.107	0.213	1478.133	0.000
28.383		163.47	-2.53	0.59	70.97	0.51	0.00	1631.30	4.711	-13.202	0.213	1502.096	0.000
28.393		163.47	-2.53	0.54	71.96	0.50	0.00	1631.80	3.476	-12.150	0.193	1376.492	0.000
28.403		163.47	-2.53	0.54	72.93	0.50	0.00	1632.30	3.388	-12.238	0.193	1396.303	0.000
28.413		163.47	-2.53	0.54	73.89	0.49	0.00	1632.79	3.300	-12.326	0.193	1415.986	0.000
28.425		163.47	-2.53	0.54	75.00	0.57	0.00	1633.35	3.205	-12.421	0.226	1437.196	0.000
28.435		163.47	-2.53	0.00	75.00	0.48	0.00	1633.83	-11.206	1.888	0.000	0.000	0.067
28.443		163.47	-2.53	0.00	75.00	0.40	0.00	1634.23	-11.206	1.888	0.000	0.000	0.056
28.453		163.47	0.3	0.00	74.86	0.48	0.00	1634.71	-11.087	-12.646	0.025	190.000	0.000
28.463		163.47	0.3	0.00	74.71	0.48	0.00	1635.19	-11.060	-12.619	0.025	190.000	0.000
28.473		163.47	0.3	0.00	74.57	0.48	0.00	1635.67	-11.034	-12.592	0.025	190.000	0.000
28.483		163.47	0.3	0.00	74.42	0.48	0.00	1636.16	-11.007	-12.565	0.026	190.000	0.000
28.492	(Start of Curve)	163.47	0.3	0.00	74.29	0.44	0.00	1636.59	-10.980	-12.539	0.023	190.000	0.000
28.502		163.47	0.3	0.00	74.15	0.49	0.00	1637.08	-10.956	-12.515	0.026	190.000	0.000
28.512		163.47	0.3	0.00	74.00	0.49	0.00	1637.56	-10.929	-12.488	0.026	190.000	0.000
28.522		163.47	0.3	0.00	73.86	0.49	0.00	1638.05	-10.903	-12.461	0.026	190.000	0.000
28.532		163.47	0.3	0.00	73.71	0.49	0.00	1638.54	-10.876	-12.435	0.026	190.000	0.000
28.542		163.47	0.3	0.00	73.57	0.49	0.00	1639.03	-10.850	-12.408	0.026	190.000	0.000
28.552		163.47	0.3	0.00	73.42	0.49	0.00	1639.52	-10.823	-12.382	0.026	190.000	0.000
28.562		163.47	0.3	0.00	73.28	0.49	0.00	1640.01	-10.797	-12.355	0.026	190.000	0.000
28.576		163.47	0.3	0.00	73.08	0.69	0.00	1640.70	-10.770	-12.329	0.036	190.000	0.000
28.586		163.47	1.94	0.00	72.65	0.49	0.00	1641.19	-20.360	-30.399	0.026	190.000	0.000
28.596		163.47	1.94	0.00	72.21	0.50	0.00	1641.69	-20.281	-30.321	0.026	190.000	0.000
28.606		163.47	1.94	0.00	71.78	0.50	0.00	1642.19	-20.203	-30.243	0.026	190.000	0.000
28.616		163.47	1.94	0.00	71.34	0.50	0.00	1642.69	-20.125	-30.165	0.027	190.000	0.000
28.626		163.47	1.94	0.00	70.91	0.51	0.00	1643.20	-20.048	-30.087	0.027	190.000	0.000
28.636		163.47	1.94	0.00	70.47	0.51	0.00	1643.71	-19.970	-30.009	0.027	190.000	0.000
28.646		163.47	1.94	0.00	70.02	0.51	0.00	1644.22	-19.892	-29.932	0.027	190.000	0.000
28.656		163.47	1.94	0.00	69.58	0.52	0.00	1644.74	-19.815	-29.854	0.027	190.000	0.000
28.666		163.47	1.94	0.00	69.14	0.52	0.00	1645.25	-19.737	-29.777	0.027	190.000	0.000
28.676		163.47	1.94	0.00	68.69	0.52	0.00	1645.78	-19.660	-29.700	0.028	190.000	0.000
28.686		163.47	1.94	0.00	68.24	0.53	0.00	1646.30	-19.583	-29.622	0.028	190.000	0.000
28.696		163.47	1.94	0.00	67.79	0.53	0.00	1646.83	-19.506	-29.545	0.028	190.000	0.000
28.706		163.47	1.94	0.00	67.33	0.53	0.00	1647.36	-19.429	-29.468	0.028	190.000	0.000
28.716		163.47	1.94	0.00	66.87	0.54	0.00	1647.90	-19.352	-29.391	0.028	190.000	0.000
28.726		163.47	1.94	0.00	66.42	0.54	0.00	1648.44	-19.275	-29.315	0.029	190.000	0.000
28.736		163.47	1.94	0.00	65.96	0.54	0.00	1648.99	-19.198	-29.238	0.029	190.000	0.000
28.746		163.47	1.94	0.00	65.49	0.55	0.00	1649.53	-19.122	-29.161	0.029	190.000	0.000
28.756		163.47	1.94	0.00	65.03	0.55	0.00	1650.08	-19.045	-29.085	0.029	190.000	0.000
28.766		163.47	1.94	0.00	64.56	0.56	0.00	1650.64	-18.969	-29.008	0.029	190.000	0.000
28.772		163.47	1.94	0.00	64.28	0.34	0.00	1650.98	-18.892	-28.932	0.018	190.000	0.000
28.786		163.47	0	0.00	64.16	0.76	0.00	1651.74	-7.452	-7.452	0.040	190.000	0.000
28.796		163.47	0	0.00	64.07	0.56	0.00	1652.30	-7.433	-7.433	0.030	190.000	0.000
28.806		163.47	0	0.00	63.98	0.56	0.00	1652.86	-7.419	-7.419	0.030	190.000	0.000
28.816		163.47	0	0.00	63.90	0.56	0.00	1653.43	-7.405	-7.405	0.030	190.000	0.000
28.835		163.47	0	0.00	63.73	1.07	0.00	1654.50	-7.391	-7.391	0.057	190.000	0.000
28.835	(End of Curve)	163.47	0	-1.23	63.64	0.02	0.00	1654.52	-36.138	28.781	0.000	0.000	0.019
28.845		163.47	0	-1.23	61.09	0.58	0.00	1655.10	-36.033	28.886	0.000	0.000	0.539
28.855		163.47	0	-1.23	58.42	0.60	0.00	1655.70	-35.831	29.088	0.000	0.000	0.539
28.865		163.47	0	-1.23	55.62	0.63	0.00	1656.33	-35.629	29.291	0.000	0.000	0.539
28.875		163.47	0	-1.23	52.68	0.66	0.00	1657.00	-35.425	29.495	0.000	0.000	0.538
28.885		163.47	0	-1.23	49.56	0.70	0.00	1657.70	-35.220	29.700	0.000	0.000	0.537
28.895		163.47	0	-1.23	46.23	0.75	0.00	1658.45	-35.013	29.906	0.000	0.000	0.536
28.905		163.47	0	-1.23	42.65	0.81	0.00	1659.26	-34.805	30.115	0.000	0.000	0.534
28.915		163.47	0	-1.23	38.73	0.88	0.00	1660.15	-34.594	30.325	0.000	0.000	0.531
28.925		163.47	0	-1.23	34.37	0.99	0.00	1661.13	-34.380	30.539	0.000	0.000	0.527
28.935		163.47	0	-1.23	29.36	1.13	0.00	1662.26	-34.162	30.757	0.000	0.000	0.521
28.945		163.47	0	-1.23	23.30	1.37	0.00	1663.63	-33.989	31.037	0.000	0.000	0.510
28.955		163.47	0	-1.23	14.95	1.88	0.00	1665.51	-33.748	31.278	0.000	0.000	0.484
28.962	Kamphang Pet	163.47	0	-1.23	0.00	3.37	30.00	1698.88	-33.482	31.544	0.000	0.000	0.232
28.972		163.47	0	1.30	18.33	3.93	0.00	1702.81	33.218	-35.214	0.834	764.965	0.000
28.982		163.47	0	1.30	25.93	1.63	0.00	1704.43	32.888	-35.544	0.715	1581.835	0.000
28.992		163.47	0	1.30	31.75	1.25	0.00	1705.68	32.642	-35.790	0.696	2007.819	0.000

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW	
29.002	(Start of Curve)	163.47	0	1.30	36.68	1.05	0.00	1706.73	32.498	-36.116	0.689	2356.757	0.000
29.012		163.47	0	1.11	40.40	0.93	0.00	1707.67	27.192	-31.233	0.591	2278.434	0.000
29.022		163.47	0	0.97	43.39	0.86	0.00	1708.53	23.307	-27.708	0.521	2182.545	0.000
29.032		163.47	0	0.97	46.19	0.80	0.00	1709.33	23.142	-27.873	0.519	2324.272	0.000
29.049		163.47	0	0.86	50.11	1.27	0.00	1710.60	20.046	-25.185	0.790	2236.833	0.000
29.059		163.47	0	0.77	52.06	0.70	0.00	1711.31	17.557	-23.072	0.422	2153.499	0.000
29.069		163.47	0	0.77	53.94	0.68	0.00	1711.99	17.428	-23.201	0.421	2230.987	0.000
29.079		163.47	0	0.77	55.76	0.66	0.00	1712.64	17.300	-23.329	0.420	2306.144	0.000
29.089		163.47	0	0.70	57.36	0.64	0.00	1713.28	15.296	-21.568	0.386	2182.479	0.000
29.099		163.47	0	0.70	58.92	0.62	0.00	1713.90	15.181	-21.683	0.386	2241.812	0.000
29.109		163.47	0	0.70	60.44	0.60	0.00	1714.50	15.066	-21.798	0.385	2299.860	0.000
29.119		163.47	0	0.64	61.79	0.59	0.00	1715.09	13.369	-20.321	0.356	2178.130	0.000
29.128		163.47	0	0.64	62.98	0.52	0.00	1715.61	13.270	-20.420	0.321	2223.005	0.000
29.144		163.47	1.04	0.64	65.00	0.88	0.00	1716.49	15.832	-23.238	0.632	2592.547	0.000
29.154		163.47	1.04	0.00	64.71	0.56	0.00	1717.04	-13.675	-19.055	0.029	190.000	0.000
29.164		163.47	1.04	0.00	64.42	0.56	0.00	1717.60	-13.628	-19.008	0.029	190.000	0.000
29.174		163.47	1.04	0.00	64.12	0.56	0.00	1718.16	-13.580	-18.960	0.030	190.000	0.000
29.184		163.47	1.04	0.00	63.83	0.56	0.00	1718.72	-13.533	-18.913	0.030	190.000	0.000
29.194		163.47	1.04	0.00	63.53	0.57	0.00	1719.29	-13.486	-18.865	0.030	190.000	0.000
29.204		163.47	1.04	0.00	63.24	0.57	0.00	1719.86	-13.439	-18.818	0.030	190.000	0.000
29.214	163.47	1.04	0.00	62.94	0.57	0.00	1720.43	-13.391	-18.771	0.030	190.000	0.000	
29.224	163.47	1.04	0.00	62.65	0.57	0.00	1721.00	-13.344	-18.724	0.030	190.000	0.000	
29.234	163.47	1.04	0.00	62.35	0.58	0.00	1721.58	-13.297	-18.677	0.030	190.000	0.000	
29.244	163.47	1.04	0.00	62.05	0.58	0.00	1722.16	-13.250	-18.630	0.031	190.000	0.000	
29.254	163.47	1.04	0.00	61.75	0.58	0.00	1722.74	-13.203	-18.583	0.031	190.000	0.000	
29.264	163.47	1.04	0.00	61.45	0.58	0.00	1723.32	-13.156	-18.536	0.031	190.000	0.000	
29.274	163.47	1.04	0.00	61.15	0.59	0.00	1723.91	-13.110	-18.489	0.031	190.000	0.000	
29.284	163.47	1.04	0.00	60.85	0.59	0.00	1724.50	-13.063	-18.443	0.031	190.000	0.000	
29.294	163.47	1.04	0.00	60.54	0.59	0.00	1725.09	-13.016	-18.396	0.031	190.000	0.000	
29.304	163.47	1.04	0.00	60.24	0.60	0.00	1725.69	-12.970	-18.349	0.031	190.000	0.000	
29.314	163.47	1.04	0.00	59.93	0.60	0.00	1726.29	-12.923	-18.303	0.032	190.000	0.000	
29.324	163.47	1.04	0.00	59.63	0.60	0.00	1726.89	-12.877	-18.256	0.032	190.000	0.000	
29.334	163.47	1.04	0.00	59.32	0.61	0.00	1727.49	-12.830	-18.210	0.032	190.000	0.000	
29.344	163.47	1.04	0.00	59.01	0.61	0.00	1728.10	-12.784	-18.164	0.032	190.000	0.000	
29.354	163.47	1.04	0.00	58.70	0.61	0.00	1728.71	-12.738	-18.117	0.032	190.000	0.000	
29.364	163.47	1.04	0.00	58.39	0.61	0.00	1729.33	-12.692	-18.071	0.032	190.000	0.000	
29.374	163.47	1.04	0.00	58.08	0.62	0.00	1729.95	-12.645	-18.025	0.033	190.000	0.000	
29.384	163.47	1.04	0.00	57.77	0.62	0.00	1730.57	-12.599	-17.979	0.033	190.000	0.000	
29.394	163.47	1.04	0.00	57.46	0.62	0.00	1731.19	-12.553	-17.933	0.033	190.000	0.000	
29.404	163.47	1.04	0.00	57.14	0.63	0.00	1731.82	-12.507	-17.887	0.033	190.000	0.000	
29.414	163.47	1.04	0.00	56.83	0.63	0.00	1732.45	-12.462	-17.841	0.033	190.000	0.000	
29.424	163.47	1.04	0.00	56.51	0.64	0.00	1733.09	-12.416	-17.795	0.034	190.000	0.000	
29.434	163.47	1.04	0.00	56.19	0.64	0.00	1733.73	-12.370	-17.750	0.034	190.000	0.000	
29.444	163.47	1.04	0.00	55.87	0.64	0.00	1734.37	-12.324	-17.704	0.034	190.000	0.000	
29.454	163.47	1.04	0.00	55.55	0.65	0.00	1735.02	-12.279	-17.658	0.034	190.000	0.000	
29.464	163.47	1.04	0.00	55.23	0.65	0.00	1735.67	-12.233	-17.613	0.034	190.000	0.000	
29.474	163.47	1.04	0.00	54.91	0.65	0.00	1736.32	-12.188	-17.567	0.035	190.000	0.000	
29.484	163.47	1.04	0.00	54.59	0.66	0.00	1736.98	-12.142	-17.522	0.035	190.000	0.000	
29.494	163.47	1.04	0.00	54.26	0.66	0.00	1737.64	-12.097	-17.476	0.035	190.000	0.000	
29.504	163.47	1.04	0.00	53.93	0.67	0.00	1738.31	-12.051	-17.431	0.035	190.000	0.000	
29.514	163.47	1.04	0.00	53.61	0.67	0.00	1738.97	-12.006	-17.386	0.035	190.000	0.000	
29.524	163.47	1.04	0.00	53.28	0.67	0.00	1739.65	-11.961	-17.340	0.036	190.000	0.000	
29.534	163.47	1.04	0.00	52.95	0.68	0.00	1740.33	-11.916	-17.295	0.036	190.000	0.000	
29.544	163.47	1.04	0.00	52.61	0.68	0.00	1741.01	-11.870	-17.250	0.036	190.000	0.000	
29.554	163.47	1.04	0.00	52.28	0.69	0.00	1741.69	-11.825	-17.205	0.036	190.000	0.000	
29.564	163.47	1.04	0.00	51.94	0.69	0.00	1742.39	-11.780	-17.160	0.036	190.000	0.000	
29.574	163.47	1.04	0.00	51.61	0.70	0.00	1743.08	-11.735	-17.115	0.037	190.000	0.000	
29.584	163.47	1.04	0.00	51.27	0.70	0.00	1743.78	-11.691	-17.070	0.037	190.000	0.000	
29.601	163.47	1.04	0.00	50.67	1.24	0.00	1745.02	-11.646	-17.025	0.065	190.000	0.000	
29.611	163.47	1.04	0.00	50.33	0.71	0.00	1745.73	-11.567	-16.947	0.038	190.000	0.000	
29.621	163.47	1.04	0.00	49.99	0.72	0.00	1746.45	-11.523	-16.902	0.038	190.000	0.000	
29.631	163.47	1.04	0.00	49.64	0.72	0.00	1747.17	-11.478	-16.858	0.038	190.000	0.000	
29.641	163.47	1.04	0.00	49.29	0.73	0.00	1747.90	-11.433	-16.813	0.038	190.000	0.000	
29.651	163.47	1.04	0.00	48.94	0.73	0.00	1748.63	-11.389	-16.768	0.039	190.000	0.000	
29.655	163.47	1.04	0.00	48.80	0.29	0.00	1748.93	-11.344	-16.724	0.016	190.000	0.000	
29.656	163.47	1.04	0.00	48.77	0.07	0.00	1748.99	-11.326	-16.706	0.004	190.000	0.000	
29.659	163.47	1.04	0.00	48.65	0.25	0.00	1749.24	-11.322	-16.702	0.013	190.000	0.000	
29.676	163.47	1.04	-1.23	42.86	1.31	0.00	1750.55	-32.193	27.347	0.000	0.000	0.807	
29.686	163.47	1.04	-1.23	38.96	0.88	0.00	1751.43	-31.917	27.623	0.000	0.000	0.482	
29.696	163.47	1.04	-1.23	34.63	0.98	0.00	1752.41	-31.703	27.837	0.000	0.000	0.478	
29.706	163.47	0	-1.23	29.67	1.12	0.00	1753.53	-34.175	30.745	0.000	0.000	0.521	
29.714	163.47	0	-1.23	25.00	1.05	0.00	1754.58	-34.028	30.998	0.000	0.000	0.410	
29.720	163.47	0	0.00	25.00	0.86	0.00	1755.44	-1.427	-1.427	0.050	209.825	0.000	
29.730	163.47	0	0.00	25.00	1.44	0.00	1756.88	-1.427	-1.427	0.084	209.825	0.000	
29.740	163.47	0	0.00	25.00	1.44	0.00	1758.32	-1.427	-1.427	0.084	209.825	0.000	
29.750	163.47	0	0.00	25.00	1.44	0.00	1759.76	-1.427	-1.427	0.084	209.825	0.000	
29.760	163.47	0	0.00	25.00	1.44	0.00	1761.20	-1.427	-1.427	0.084	209.825	0.000	
29.770	163.47	0	0.00	25.00	1.44	0.00	1762.64	-1.427	-1.427	0.084	209.825	0.000	

Simulation(Coasting)

This program was designed for his own personal and educational evaluation purposes of the Bangkok subway Blue Line by Apigeat Tom Saunkratoke, B.S.M.E. (Norwich) M.S.M.E (Georgia Tech), an academic/mechanical engineer.

Chainage	Station	Total Wt. Train,T	Grad. %	Acc. m/s ²	Final V. kph	Time_sec			Force Exerted, kN		Consumption		Regen. kWh	
						Run	Dwell	Total	Coupling A	Coupling B	Energy,kWh	Power,kW		
29.780	(End of Scissors)	163.47	0	0.00	25.00	1.44	0.00	1764.08	-1.427	-1.427	0.084	209.825	0.000	
29.796		163.47	0	0.00	25.00	2.30	0.00	1766.39	-1.427	-1.427	0.134	209.825	0.000	
29.806		163.47	0	0.00	25.00	1.44	0.00	1767.83	-1.427	-1.427	0.084	209.825	0.000	
29.816		163.47	0	0.00	25.00	1.44	0.00	1769.27	-1.427	-1.427	0.084	209.825	0.000	
29.826		163.47	0	0.00	25.00	1.44	0.00	1770.71	-1.427	-1.427	0.084	209.825	0.000	
29.836		163.47	0	0.00	25.00	1.44	0.00	1772.15	-1.427	-1.427	0.084	209.825	0.000	
29.846		163.47	0	0.00	25.00	1.44	0.00	1773.59	-1.427	-1.427	0.084	209.825	0.000	
29.856		163.47	0	0.00	25.00	1.44	0.00	1775.03	-1.427	-1.427	0.084	209.825	0.000	
29.860		163.47	0	0.00	25.00	0.58	0.00	1775.60	-1.427	-1.427	0.034	209.825	0.000	
29.870		163.47	0	0.00	25.00	1.44	0.00	1777.04	-1.427	-1.427	0.084	209.825	0.000	
29.880		163.47	0	0.00	25.00	1.44	0.00	1778.48	-1.427	-1.427	0.084	209.825	0.000	
29.890		163.47	0	0.00	25.00	1.44	0.00	1779.92	-1.427	-1.427	0.084	209.825	0.000	
29.900		163.47	0	0.00	25.00	1.44	0.00	1781.36	-1.427	-1.427	0.084	209.825	0.000	
29.910		163.47	0	0.00	25.00	1.44	0.00	1782.80	-1.427	-1.427	0.084	209.825	0.000	
29.920		163.47	0	0.00	25.00	1.44	0.00	1784.24	-1.427	-1.427	0.084	209.825	0.000	
29.930		163.47	0	0.00	25.00	1.44	0.00	1785.68	-1.427	-1.427	0.084	209.825	0.000	
29.940		163.47	0	0.00	25.00	1.44	0.00	1787.12	-1.427	-1.427	0.084	209.825	0.000	
29.950		163.47	0	0.00	25.00	1.44	0.00	1788.56	-1.427	-1.427	0.084	209.825	0.000	
29.960		163.47	0	0.00	25.00	1.44	0.00	1790.00	-1.427	-1.427	0.084	209.825	0.000	
29.970		163.47	0	0.00	25.00	1.44	0.00	1791.44	-1.427	-1.427	0.084	209.825	0.000	
29.980		163.47	0	0.00	25.00	1.44	0.00	1792.88	-1.427	-1.427	0.084	209.825	0.000	
29.990		163.47	0	0.00	25.00	1.44	0.00	1794.32	-1.427	-1.427	0.084	209.825	0.000	
30.002		163.47	0	0.00	25.00	1.79	0.00	1796.11	-1.427	-1.427	0.104	209.825	0.000	
30.012		163.47	0	-1.23	17.49	1.69	0.00	1797.81	-33.813	31.214	0.000	0.000	0.494	
30.022		Bang Sue	163.47	0	-1.23	0.00	3.94	0.00	1801.75	-33.503	31.523	0.000	0.000	0.352

Cars Per Train: 3
 Train Formation: MC_AT_BMC

Total Energy Consumption,kWh	235.746
kWh/car	78.582
Total Time,min	30.03
Avg Commercial Speed,kph	39.50
Max. Power Consumption,kW	2616.476
Avail. Regen. Energy,kWh	123.888
Total kWh, 100% Regen.	111.858
Max. Force Exerted,kN	
Coupling A	33.218
	-45.242
Coupling B	37.349
	-53.762