

SwissRapide Travel Time Calculations for the New Zealand Maglev Train Projects

The following are the preliminary calculations for the travel time of Maglev trains within the scope of the New Zealand Maglev Train Projects.

The calculations are based on the following assumptions:

- Maximum speed of Maglev trains:
 - Intercity: 450 km/h
 - Metro: 250 km/h
- Maglev acceleration and deceleration: 1.2 m/s²
- Dwell time in stations (with platforms on each side of the train): 60 s
- The distances between the stations in the table below are correct.
- The curve radiuses between the stations allow for the maximum speed as given in the table below.
- The calculated travel times have been rounded up to the nearest second.

Our preliminary calculations for the travel time are summarised in the following table:

No	Station Name	Distance Between Station (km)	Maximum Speed (km/h)	Travel Time Between Stations	Distance from Whangarei (km)	Total Travel Time from Whangarei
1	Whangarei	0.0	0	-	0.0	00:00:00
2	Brynderwyn	53.0	450	08:48	53.0	00:08:48
3	Warkworth	47.0	450	08:00	100.0	00:17:48
4	Hibiscus Coast Park & Ride	29.0	450	05:36	129.0	00:24:24
5	Albany Bus Station	15.0	250	04:34	144.0	00:29:58
6	Smales Farm Busway	10.0	250	03:22	154.0	00:34:20
7	Westgate Shopping Centre	18.0	250	05:17	172.0	00:40:37
8	Te Atatu South	7.5	200	03:01	179.5	00:44:39

No	Station Name	Distance Between Station (km)	Maximum Speed (km/h)	Travel Time Between Stations	Distance from Whangarei (km)	Total Travel Time from Whangarei
9	Sunnyvale Station	5.0	200	02:16	184.5	00:47:55
10	Aotea Station (CBD) CRL	18.0	250	05:17	202.5	00:54:12
11	Penrose Train Station	10.0	250	03:22	212.5	00:58:34
12	Pakuranga Busway	6.0	200	02:34	218.5	01:02:08
13	Flat Bush	5.0	200	02:16	223.5	01:05:24
14	Puhinui Station	11.0	250	03:36	234.5	01:10:01
15	AKL International Airport	5.0	200	02:16	239.5	01:13:17
16	Papakura Station	20.0	400	04:33	259.5	01:18:50
17	Drury	5.0	200	02:16	264.5	01:22:06
18	Pokeno	18.0	400	04:15	282.5	01:27:20
19	Huntly	40.0	450	07:04	322.5	01:35:25
20	Te Rapa Hamilton	27.0	450	05:20	349.5	01:41:45
21	Hamilton Airport	19.0	400	04:24	368.5	01:47:08
22	Cambridge	18.0	400	04:15	386.5	01:52:23
23	Matamata	39.0	450	06:56	425.5	02:00:19
24	Cambridge Park Tauranga	45.0	450	07:44	470.5	02:09:03

Please note that these estimates can vary depending on if the assumptions above are correct, variances in the maximum speeds between stations, as well as limitations on the maximum speeds in order to optimise the energy consumption.

We hope that these preliminary calculations are of assistance to you.



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