

Table 1 Calculation for Aircraft Crash Frequency

Year	Runway	Spatial distribution of crashes F(x,y)	Projected distance on x-axis (km)	Projected distance on y-axis (km)	Aircraft annual movement N (per year) [1]	Probability of accident per movement landing and take-off (per flight)	Crash Frequency (per unit area)	Target Area (km ²)	Crash Frequency (per year)	
2029	25 Landing (North runway)	5.23E-07	14.5	5.1	620000	2.70E-08	8.76E-09	0.0012	1.05E-11	Landing
2029	25 Take-off (North runway)	5.23E-07	14.5	5.1	620000	4.00E-08	1.30E-08	0.0012	1.56E-11	Take-off
2029	07 Landing (North runway)	1.77E-08	14.5	5.1	620000	2.70E-08	2.97E-10	0.0012	3.56E-13	Landing
2029	07 Take-off (North runway)	1.77E-08	14.5	5.1	620000	4.00E-08	4.39E-10	0.0012	5.27E-13	Take-off
2029	25 Landing (Center runway)	1.32E-08	13.9	5.8	620000	2.70E-08	2.20E-10	0.0012	2.64E-13	Landing
2029	25 Take-off (Center runway)	1.32E-08	13.9	5.8	620000	4.00E-08	3.26E-10	0.0012	3.91E-13	Take-off
2029	07 Landing (Center runway)	6.04E-07	13.9	5.8	620000	2.70E-08	1.01E-08	0.0012	1.21E-11	Landing
2029	07 Take-off (Center runway)	6.04E-07	13.9	5.8	620000	4.00E-08	1.50E-08	0.0012	1.80E-11	Take-off
2029	25 Landing (South runway)	1.47E-09	14.2	7.8	620000	2.70E-08	2.46E-11	0.0012	2.96E-14	Landing
2029	25 Take-off (South runway)	1.47E-09	14.2	7.8	620000	4.00E-08	3.65E-11	0.0012	4.38E-14	Take-off
2029	07 Landing (South runway)	3.45E-07	14.2	7.8	620000	2.70E-08	5.77E-09	0.0012	6.92E-12	Landing
2029	07 Take-off (South runway)	3.45E-07	14.2	7.8	620000	4.00E-08	8.55E-09	0.0012	1.03E-11	Take-off

Note:

[1] Reference: EIA study of Expansion of Hong Kong International Airport into a Three-Runway System (AEIAR-185/2014)

Table 2 Total Aircraft Crash Frequency

Year 2028	Total Crash Frequency (per year)
Landing	3.02E-11
Take-off	4.48E-11
<i>Total</i>	7.50E-11

