Part A. Thermal data regarding maximum, minimum, mean, and standard deviation (SD) are given in Tables S1, S2 and S3.

Table S1. Measured Data in the Morning.

Measuring Points		T_a,°C				RH,%				DewPt, °C			
		Mean	Max	Min	SD	Mean	Max	Min	SD	Mean	Max	Min	SD
1	B	6.74	7.59	6.33	0.33	66.00	69.26	62.28	2.02	0.83	1.27	0.45	0.15
2	C1	6.04	6.96	5.77	0.25	72.53	75.76	63.62	2.32	1.47	1.88	0.50	0.25
3	C2	6.44	7.19	6.15	0.21	74.17	77.87	61.25	2.86	2.17	2.74	0.24	0.42
4	C3	6.91	7.54	6.64	0.22	65.12	67.03	62.48	0.99	0.81	1.05	0.52	0.11
5	D1	6.66	7.14	6.33	0.20	65.13	67.38	61.91	1.52	0.57	0.97	0.08	0.19
6	D2	6.3	6.76	6.08	0.14	63.38	65.32	61.25	1.19	−0.1	0.65	−0.6	0.28
7	D3	6.33	6.76	6.15	0.13	63.70	65.65	61.69	1.08	−0.0	0.70	−0.5	0.26
8	E1	6.63	7.22	6.28	0.20	66.11	68.26	62.75	1.68	0.75	1.22	0.27	0.20
9	E2	6.66	7.27	6.33	0.23	65.83	68.01	62.08	1.65	0.72	1.18	0.38	0.18
10	F1	6.46	6.74	6.18	0.13	66.98	68.92	64.83	1.06	0.77	1.25	0.33	0.15
11	F2	6.51	6.84	6.23	0.14	61.59	63.92	59.14	1.40	−0.3	0.38	−0.8	0.26
12	F3	6.51	6.89	6.20	0.15	66.74	68.91	64.52	1.15	0.77	1.18	0.36	0.14
13	HR	6.58	7.04	6.23	0.17	63.21	65.78	60.48	1.31	0.08	0.93	−0.6	0.31
14	PG	7.16	10.5	6.4	0.65	63.55	69.4	52.6	3.38	0.69	1.4	0	0.32
15	R	7.19	9.93	6.81	0.36	67.26	70.55	51.58	2.45	1.53	2.21	0.34	0.31
16	W1	7.08	8.1	6.5	0.30	61.83	66.4	58	1.58	0.26	1.2	−0.1	0.22
17	W2	7.41	8.9	6.5	0.55	62.51	67.3	56.7	2.52	0.71	2.9	0	0.28
18	W3	7.53	10.3	6.9	0.45	61.98	65.7	53.3	1.87	0.71	1.5	0.2	0.22
19	W4	7.07	11.5	6.6	0.55	62.13	65.6	47.2	2.39	0.31	0.8	−0.1	0.21
20	W5	7.71	9.7	6.8	0.67	59.14	63.4	51.2	3.25	0.22	0.7	−0.4	0.21
21	W6	7.32	8.9	6.7	0.49	62.72	68.1	56.2	2.70	0.66	1.5	0	0.23
22	W7	7.11	8.4	6.3	0.51	61.48	65.9	55.9	2.75	0.21	0.9	−0.4	0.22
23	W8	7.1	7.8	6.6	0.27	63.21	67.3	59.5	1.71	0.57	1.3	0	0.24
24	W9	7.01	8	6.6	0.25	62.95	65.7	58.9	1.54	0.43	1.3	0	0.25
25	WM	6.62	7.27	6.36	0.17	64.45	67.15	61.59	1.37	0.39	0.92	−0.1	0.24
Average		6.84	8.05	6.4	0.31	64.55	67.78	58.84	1.91	0.61	1.28	−0.002	0.23

Table S2. Measured Data in the Afternoon.

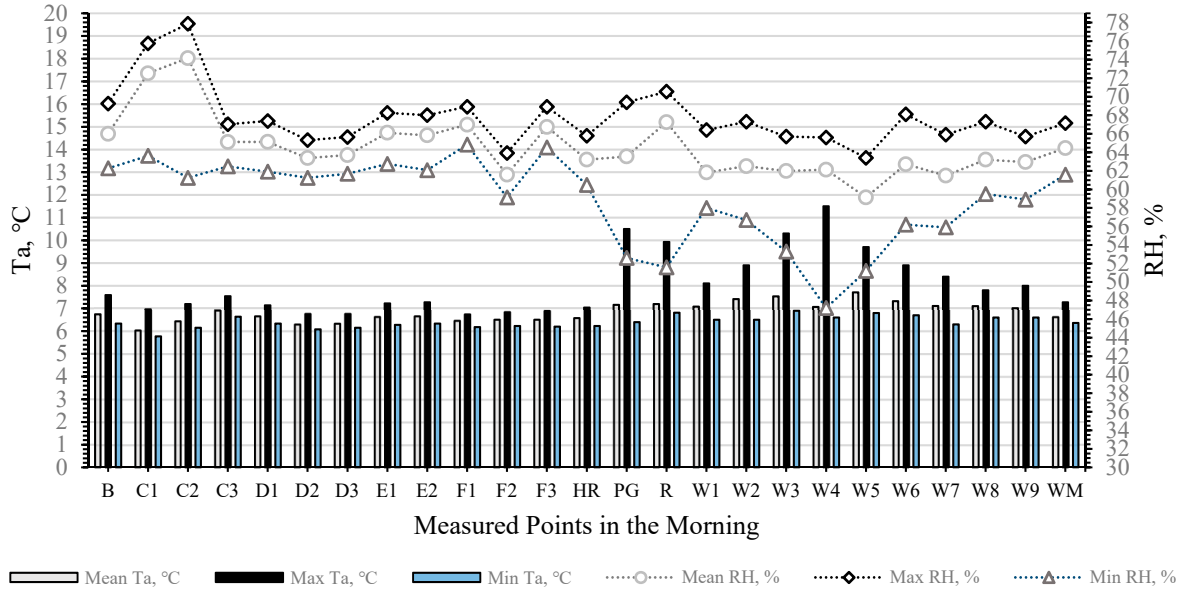
Measuring Points		T_a,°C				RH,%				DewPt, °C			
		Mean	Max	Min	SD	Mean	Max	Min	SD	Mean	Max	Min	SD
1	B	9.40	10.9	8.49	0.53	46.22	50.73	39.28	3.22	−1.5	−0.6	−2.8	0.58
2	C1	9.62	9.90	9.26	0.17	49.53	53.93	43.77	2.13	−0.4	0.63	−1.9	0.51
3	C2	10.0	10.3	9.83	0.10	57.09	62.94	48.51	3.24	1.89	3.19	−0.2	0.77
4	C3	9.32	9.63	9.19	0.12	48.33	51.73	44.19	1.86	−1.0	−0.1	−2.2	0.51
5	D1	9.68	10.3	9.04	0.41	44.75	48.74	39.40	2.71	−1.7	−0.9	−3.0	0.53
6	D2	8.46	8.82	8.04	0.23	45.72	50.02	40.75	2.74	−2.5	−1.6	−3.8	0.62
7	D3	8.49	8.82	8.04	0.23	45.75	50.18	40.90	2.77	−2.5	−1.5	−3.7	0.63
8	E1	9.81	10.6	8.87	0.55	45.18	50.73	39.68	3.52	−1.5	−0.4	−2.8	0.64
9	E2	8.93	9.19	8.57	0.17	47.74	52.08	42.78	2.65	−1.5	−0.5	−2.8	0.62
10	F1	8.73	8.99	8.32	0.20	49.00	53.56	43.74	2.77	−1.3	−0.3	−2.7	0.65
11	F2	8.86	9.38	8.29	0.26	43.15	48.18	38.44	2.85	−3.0	−1.7	−4.2	0.69
12	F3	10.0	10.7	9.43	0.30	46.22	50.85	41.06	2.34	−1.0	0.37	−2.5	0.75
13	HR	9.15	10.2	8.07	0.37	43.97	49.58	38.98	2.82	−2.4	−0.8	−4.1	0.80
14	PG	10.8	12.6	9.4	0.53	42.83	48.7	34.9	2.88	−1.2	0.4	−3.4	0.75
15	R	9.84	10.5	9.01	0.35	47.03	53.08	41.70	3.06	−0.9	0.32	−2.5	0.71
16	W1	9.98	11.7	8.8	0.49	43.35	48.9	37.3	2.88	−1.8	0.1	−3.3	0.68

17	W2	10.8	12.6	9.9	0.53	42.27	46.4	36.9	2.22	−1.3	0.2	−3.2	0.79
18	W3	9.62	10	8.8	0.26	45.90	50.6	41.2	2.63	−1.3	−0.3	−2.9	0.69
19	W4	9.51	10.2	8.7	0.34	44.93	49.1	39.2	2.69	−1.7	−0.7	−3.3	0.62
20	W5	11.5	13.2	10	0.69	38.71	43.5	34.7	1.65	−1.9	−0.4	−3.5	0.73
21	W6	12.2	14.2	10.3	0.74	38.27	44.2	31.4	2.90	−1.4	0.2	−3.2	0.73
22	W7	11.2	12.7	9.4	0.65	39.02	45.1	33.8	2.78	−2.1	0	−3.7	0.71
23	W8	10.5	12.5	9.2	0.58	42.31	47.4	38.5	2.22	−1.6	−0.2	−3.2	0.69
24	W9	9.23	9.8	8.5	0.28	45.33	50.1	40.5	2.86	−1.9	−0.7	−3.2	0.68
25	WM	9.05	9.43	8.59	0.20	45.79	51.86	40.36	2.73	−2.0	−0.5	−3.4	0.67
Average		9.80	10.70	8.96	0.37	45.14	50.08	39.68	2.68	−1.54	−0.24	−3.05	0.67

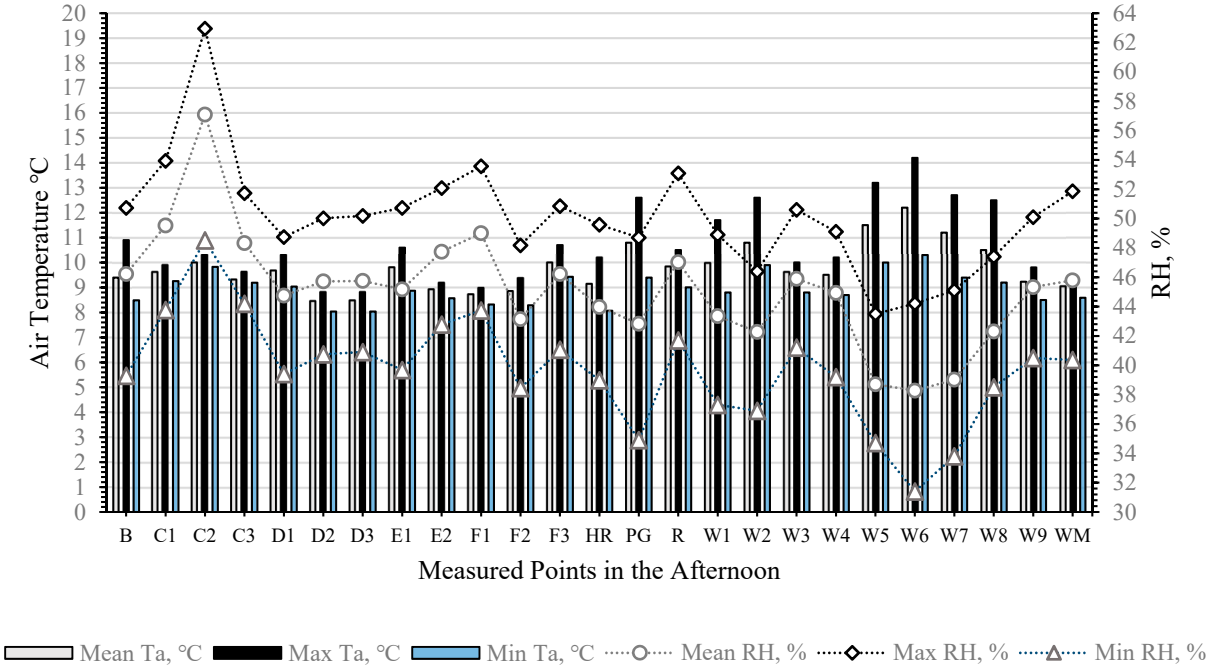
Table S3. Measured Data in the Evening.

Measuring Points		T_a,℃				RH,%				DewPt, ℃			
		Mean	Max	Min	SD	Mean	Max	Min	SD	Mean	Max	Min	SD
1	B	4.01	6.86	2.75	1.12	66.43	78.63	45.96	9.85	−1.8	−0.1	−3.9	1.09
2	C1	4.63	5.77	4.06	0.38	71.47	74.37	62.13	2.72	−0.0	0.68	−1.0	0.51
3	C2	7.33	9.06	6.79	0.59	72.45	80.88	53.85	8.71	2.60	3.89	−0.2	1.26
4	C3	7.98	10.0	6.94	0.83	53.97	62.48	42.23	6.18	−0.8	0.3	−2.4	0.85
5	D1	6.95	8.57	6.36	0.57	57.09	63.99	44.08	5.31	−1.0	0.10	−2.9	0.81
6	D2	7.00	8.17	6.51	0.42	52.74	59.62	39.97	6.07	−2.0	−0.6	−4.6	1.24
7	D3	6.97	7.97	6.53	0.36	53.36	60.62	42.43	6.13	−1.9	−0.4	−4.2	1.28
8	E1	6.88	7.97	6.33	0.31	57.26	63.91	46.26	4.94	−1.0	0.31	−3.1	1.03
9	E2	7.05	8.57	6.46	0.49	54.96	63.63	41.65	6.59	−1.4	0.1	−3.8	1.24
10	F1	6.92	7.79	6.38	0.30	54.50	62.89	42.59	6.10	−1.6	0.01	−4.1	1.40
11	F2	6.30	7.64	5.67	0.40	55.49	64.14	43.70	5.44	−2.0	−0.5	−4.2	1.09
12	F3	6.61	8.24	6.08	0.45	60.08	67.61	49.09	4.95	−0.6	0.64	−2.3	0.83
13	HR	7.69	8.52	6.96	0.37	50.15	59.29	39.80	5.98	−2.1	−0.3	−4.4	1.31
14	PG	6.45	7.7	5.9	0.41	58.29	69.1	45	6.02	−1.1	0.8	−3.4	1.08
15	R	8.42	12.1	7.14	0.73	53.83	63.12	33.04	6.68	−0.4	1.25	−3.6	1.28
16	W1	7.13	8.3	6.4	0.31	54.30	64	43.1	4.97	−1.4	0.8	−3.8	1.07
17	W2	6.82	7.7	6.3	0.40	57.90	66.2	47.8	6.00	−0.8	0.5	−3.1	1.11
18	W3	7.71	8.2	7.2	0.23	52.86	60.7	45.1	5.14	−1.2	0.2	−3.1	1.18
19	W4	7.29	7.9	6.7	0.24	53.38	62.1	43.6	5.41	−1.5	0.1	−3.6	1.22
20	W5	6.54	7.2	6	0.28	55.51	64.4	45.4	5.72	−1.6	0	−3.8	1.18
21	W6	6.97	7.7	6.4	0.28	55.41	65	45.9	6.03	−1.3	0.3	−3.4	1.22
22	W7	6.59	7.5	6.2	0.30	57.44	69.7	44.9	6.28	−1.2	1.2	−3.7	1.23
23	W8	8.06	9.2	7.5	0.32	51.22	58.5	41.4	4.93	−1.3	0.2	−3.4	1.06
24	W9	7.74	8.8	7.1	0.41	52.54	62.5	41.1	5.67	−1.3	0.9	−3.7	1.19
25	WM	7.09	9.68	6.56	0.43	54.23	62.02	35.08	5.95	−1.5	−0.1	−5.0	1.22
Average		6.92	8.28	6.29	0.44	56.67	65.17	44.20	5.91	−1.16	0.40	−3.41	1.12

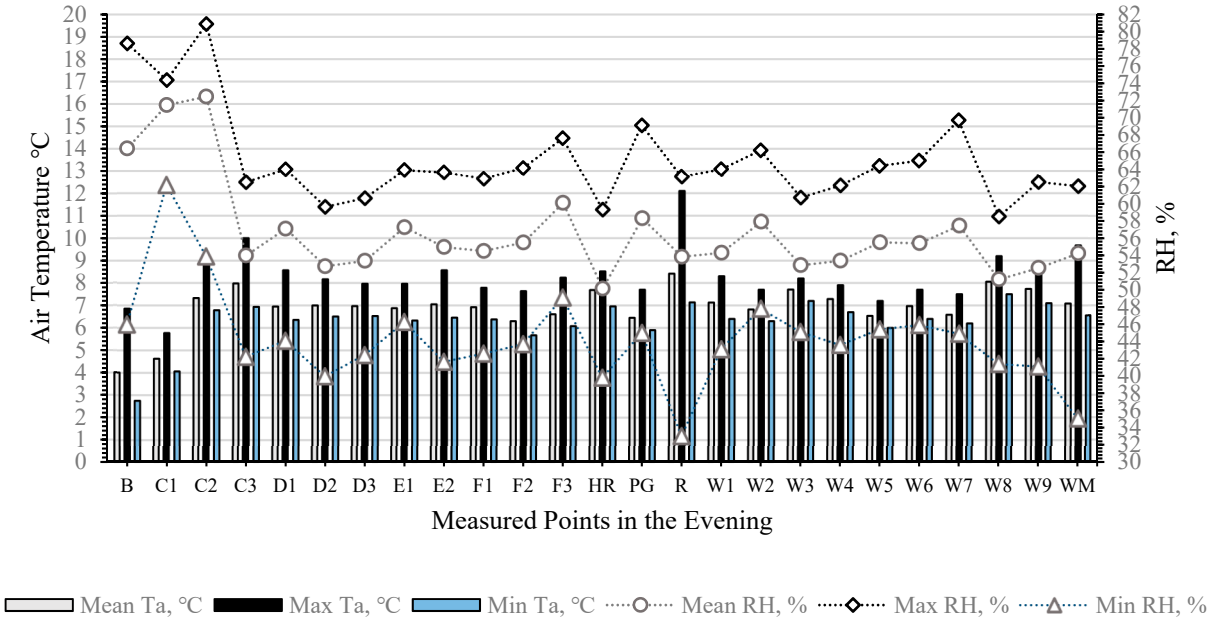
Part B. A strong relationship between the Ta and RH parameters of all measured points within three main time zones (morning, afternoon, and evening) were shown in Figure S1.


Ta, °C
RH, %
B C1 C2 C3 D1 D2 D3 E1 E2 F1 F2 F3 HR PG R W1 W2 W3 W4 W5 W6 W7 W8 W9 WM
Measured Points in the Morning
Mean Ta, °C
Max Ta, °C
Min Ta, °C
Mean RH, %
Max RH, %
Min RH, %

(a)


Air Temperature °C
RH, %
B C1 C2 C3 D1 D2 D3 E1 E2 F1 F2 F3 HR PG R W1 W2 W3 W4 W5 W6 W7 W8 W9 WM
Measured Points in the Afternoon
Mean Ta, °C
Max Ta, °C
Min Ta, °C
Mean RH, %
Max RH, %
Min RH, %

(b)



(c)

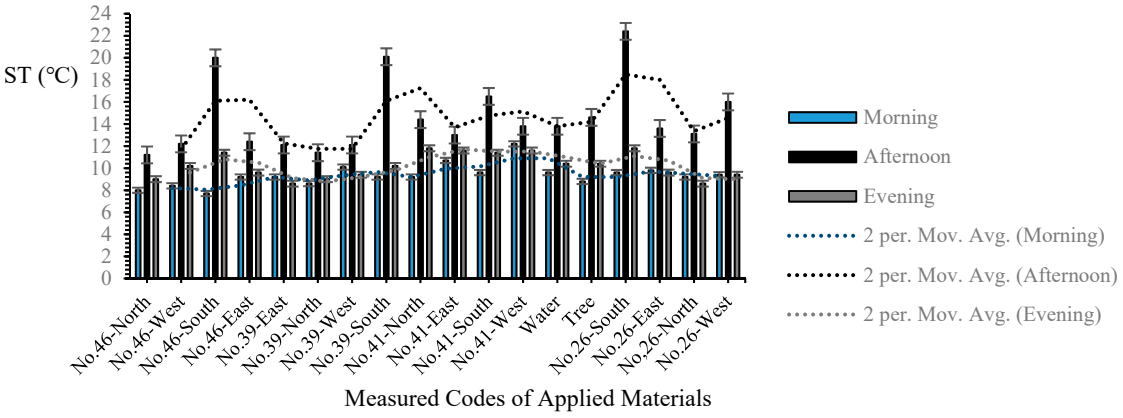
Figure S1. The relationship between RH and Ta parameters of the measurement points in the main designated time zones. (a) measured points in the morning; (b) measured points in the afternoon; (c) measured points in the evening.

Part C. The built surface effects on thermal surroundings.Impact of built environments on the surrounding thermal conditions by focusing on the correlation between colours and materials were shown in Figure S2.

(a)

No	Measured Codes	Surface Temperature, °C			Material	Colour
		Morning	Afternoon	Evening		
1	No.46–North	8.0	11.2	9.0	Concrete	White
2	No.46–West	8.4	12.2	10.2	Concrete	Grey
3	No.46–South	7.7	20.0	11.4	Ceramic	White
4	No.46–East	9.2	12.4	9.6	Concrete	Grey
5	No.39–East	9.2	12.1	8.6	Concrete	Grey
6	No.39–North	8.6	11.4	9.0	Concrete	Grey
7	No.39–West	10.1	12.1	9.4	Concrete	Grey
8	No.39–South	9.2	20.1	10.2	Concrete	Grey
9	No.41–North	9.2	14.4	11.8	Concrete	Grey
10	No.41–East	10.7	13.0	11.6	Concrete	Grey
11	No.41–South	9.6	16.5	11.4	Concrete	Grey
12	No.41–West	12.2	13.8	11.6	Concrete	White
13	Water	9.6	13.8	10.4	Water	–
14	Tree	8.8	14.6	10.4	Wood	–
15	No.26–South	9.6	22.4	11.8	Concrete	Yellow
16	No.26–East	9.8	13.6	9.6	Concrete	Yellow
17	No.26–North	9.2	13.1	8.6	Concrete	Yellow
18	No.26–West	9.4	16.0	9.4	Concrete	Yellow

(b)



(c)

Figure S2. Impact of built environments on the surrounding thermal conditions by focusing on the correlation between colours and materials. (a) Measuered points in site; (b) Detail of the materials and colours in the main designated time zones with the measured codes; (c) ST fluctuations in the measured areas.

Figures S2 gives the built surface temperature (ST) in relation to the effects of colour and material upon the surroundings. The maximum temperature in the morning is for white–coloured concrete, while ceramic of the same white colour (a neutral colour) yields the minimum temperature. In the afternoon, concrete materials of yellow and white have the maximum and minimum temperatures, showing that warm colours such as yellow and warm grey can provide a more significant comfort zone in cold circumstances, while cold colours may provide better conditions for hot seasons. In the evening, the concrete materials with yellow and

grey have the maximum temperatures, while the minimum temperature was found in similar colours (yellow and grey) simultaneously. These results show that the textures and colours of built surfaces have an enormous role in the heat exchange, thermal emittance and absorption that impact ambient surroundings, which can significantly affect MRT.