

**Supplementary Table S1.** Descriptive statistics of objectively-assessed POS for a 500 m sausage network walkable street buffer. Values shown are mean (SD).

<b>Objectively-Assessed POS</b>	<b>Mean (SD)</b>
Coast line contained or intersected by buffer (km)	0 (0.03)
Healthy routes contained or intersected by buffer (km)	1.11 (1.1)
No. sports facilities contained or intersected by buffer	0.52 (0.73)
Area of sports facilities contained or intersected by buffer (km <sup>2</sup> )	0 (0.01)
No. parks contained or intersected by buffer	2.88 (1.88)
Areas of parks contained or intersected by buffer (km <sup>2</sup> )	0.08 (0.21)
No. beaches contained or intersected by buffer	0.02 (0.13)
Areas of beaches contained or intersected by buffer (km <sup>2</sup> )	0 (0)
No. POS contained or intersected by buffer	3.42 (2.21)
Areas of POS contained or intersected by buffer (km <sup>2</sup> )	0.08 (0.21)

Abbreviations: SD, standard deviation; POS, public open spaces; km, Kilometer; km<sup>2</sup>, square kilometer.

**Supplementary Table S2.** Summary of the results associations between objectively-assessed public open spaces (POS) for a 500 m sausage network walkable street buffer and self-reported leisure-time brisk walking measure and 10-minute bouts of OM-MVPA. The results for the following model comparisons are provided: Covariate-adjusted POS GAMs.

Predictor Variable	Self-Reported Leisure-Time Brisk Walking			Objectively-Measured-MVPA		
	$\beta$	95% CI	<i>p</i>	$\beta$	95% CI	<i>p</i>
	Coast line contained or intersected by buffer (km)	-59.806	-171.074–51.46	0.293	-32.999	-127.145–61.146
Healthy routes contained or intersected by buffer (km)	1.376	-1.798–4.549	0.396	1.491	-1.187–4.169	0.277
No. sports facilities contained or intersected by buffer	1.692	-3.079–6.462	0.488	1.580	-2.449–5.609	0.443
Area of sports facilities contained or intersected by buffer (Km <sup>2</sup> )	207.995	-113.202–529.19	0.206	-72.160	-344.378–200.058	0.604
No. parks contained or intersected by buffer	-0.267	-2.132–1.597	0.779	0.353	-1.222–1.928	0.661
Areas of parks contained or intersected by buffer (km <sup>2</sup> )	-12.612	-29.097–3.872	0.135	-10.196	-24.129–3.737	0.153
No. beaches contained or intersected by buffer	18.841	-7.084–44.766	0.156	-6.006	-27.998–15.987	0.593
Areas of beaches contained or intersected by buffer (km <sup>2</sup> )	716.339	-852.14–2284.82	0.372	-324.53	-1651.44–1002.37	0.632
No. POS contained or intersected by buffer	0.063	-1.52–1.646	0.938	0.406	-0.931–1.742	0.552
Areas of POS contained or intersected by buffer (km <sup>2</sup> )	-11.960	-28.438–4.517	0.156	-10.403	-24.32–3.514	0.144

Abbreviations:  $\beta$ , non-standardized coefficient; 95% CI, confidence interval; *p*, *p*-value; MVPA, moderate-to-vigorous physical activity in bouts of at least 10 min.  $\beta$  indicates change in self-reported leisure-time brisk walking or OM-MVPA per minutes per day (min/day) per increment (in 1 km, 1 km<sup>2</sup>, or count) in access to public open spaces (POS). Individual-level covariate (sex, education level and self-rated health).

**Supplementary Table S3.** Summary of the results associations between objectively-access to Public Open Spaces (POS) for 500 m sausage network walkable street buffer and 10 minutes bouts OB-MVPA. The results for the following model comparisons are provided: Covariate-adjusted POS GAMMs.

Predictor Variable	<sup>a</sup> Objectively-Assessed MVPA 10 Minutes Bouts (Minutes/Day) ( <i>n</i> = 216)			<sup>b</sup> Engaging in $\geq 150$ min/week Objectively-Assessed MVPA 10 min Bouts ( <i>n</i> = 216)		
	$\beta$	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
	Healthy routes contained or intersected by buffer (km)	1.334	-1.357–4.025	0.332	1.083	0.81–1.448
No. sports facilities contained or intersected by buffer	1.078	-3.094–5.249	0.613	1.234	0.813–1.874	0.325
No. parks contained or intersected by buffer	0.522	-1.159–2.203	0.544	1.058	0.894–1.25	0.518
Areas of parks contained or intersected by buffer (km <sup>2</sup> )	-7.474	-20.942–5.994	0.278	0.304	0.039–2.335	0.253
No. POS contained or intersected by buffer	0.459	-0.971–1.89	0.53	1.061	0.922–1.22	0.411
Areas of POS contained or intersected by buffer (km <sup>2</sup> )	-7.697	-21.161–5.766	0.264	0.308	0.041–2.319	0.254

Abbreviations:  $\beta$ , non-standardized coefficient; OR, odds ratio; 95% CI, confidence interval;  $p$ ,  $p$ -value.  $\beta$ , indicates change in 10 min bouts OB-MVPA per minutes per day (min/day) per increment (in 1 km, 1 km<sup>2</sup> or count) in access to public open spaces (POS). All coefficients are adjusted for individual-level covariate (sex, age, education level and self-rated health). <sup>a</sup> GAMMs with gaussian variance and identity link functions. <sup>b</sup> GAMM with binomial variance and logit link functions.

**Supplementary Table S4.** Summary of the interaction between objectively-access to Public Open Spaces (POS) for distance and 1000m sausage network walkable street buffer and 10 minutes bouts OB-MVPA. The results for the following model comparisons are provided: Covariate-adjusted POS GAMMs.

Predictor Variable	<sup>a</sup> Objectively-Assessed MVPA 10 min Bouts (Minutes/Day) ( $n = 216$ )				<sup>b</sup> Engaging in $\geq 150$ min/week Objectively-Assessed MVPA 10 minBouts ( $n = 216$ )			
	$p$ . int	$\beta$	95% CI	$p$	$p$ .int	OR	95% CI	$p$
Distance to the coast (km)	0.403	0.794	-1.733-3.32	0.539	0.253	1.148	0.906-1.454	0.255
Distance to the healthy route for walking (km)	0.412	-1.422	-8.894-6.049	0.709	0.085	0.871	0.478-1.588	0.653
Distance to the nearest sports facility (km)	0.230	-3.626	-10.019-2.767	0.268	0.333	0.861	0.47-1.576	0.627
Distance to the nearest beach (km)	0.996	-1.102	-3.929-1.726	0.446	0.448	1.000	0.769-1.302	0.997
Distance to the nearest Park (km)	0.832	-4.110	-14.316-6.097	0.431	0.480	0.770	0.317-1.869	0.565
Healthy routes contained or intersected by buffer (km)	0.028	1.912	0.622-3.202	0.004	0.071	1.120	0.978-1.282	0.103
No. sports facilities contained or intersected by buffer	0.156	2.290	-0.575-5.155	0.119	0.599	1.103	0.83-1.464	0.501
No. parks contained or intersected by buffer	0.894	0.503	-0.305-1.312	0.224	0.532	1.000	0.922-1.084	0.994
Areas of parks contained or intersected by buffer (km <sup>2</sup> )	0.939	-4.568	-19.597-10.46	0.552	0.874	0.743	0.153-3.618	0.713
No. POS contained or intersected by buffer	0.655	0.487	-0.201-1.174	0.167	0.678	1.005	0.939-1.076	0.882
Areas of POS contained or intersected by buffer (km <sup>2</sup> )	0.945	-4.372	-19.398-10.654	0.569	0.974	0.731	0.15-3.576	0.699

Abbreviations:  $p$ .int,  $p$ -value for interaction each POS and rain during the accelerometer wearing period;  $\beta$ , non-standardized coefficient OR, odds ratio; 95% CI, confidence interval;  $p$ ,  $p$ -value.  $\beta$ , indicates change in 10 minutes bouts OB-MVPA per minutes per day (min/day) per increment (in 1 km, 1 km<sup>2</sup> or count) in access to public open spaces (POS). All coefficients are adjusted for individual-level covariate (sex, age, education level and self-rated health). <sup>a</sup> GAMMs with gaussian variance and identity link functions. <sup>b</sup> GAMM with binomial variance and logit link functions.

**Supplementary Table S5.** Summary of the interaction between objectively-access to Public Open Spaces (POS) for 500 m sausage network walkable street buffer and 10 minutes bouts OB-MVPA. The results for the following model comparisons are provided: Covariate-adjusted POS GAMMs.

Predictor Variable	<sup>a</sup> Minutes/day Objectively-Assessed MVPA 10 min Bouts ( <i>n</i> = 216)				<sup>a</sup> Engaging in $\geq 150$ min/week Objectively-Assessed MVPA 10 min Bouts ( <i>n</i> = 216)			
	<i>p.int</i>	$\beta$	95% CI	<i>p</i>	<i>p.int</i>	OR	95% CI	<i>p</i>
Healthy routes contained or intersected by buffer (km)	0.135	3.410	-0.395-7.215	0.081	0.175	1.303	0.879-1.933	0.188
No. sports facilities contained or intersected by buffer	0.471	2.458	-3.03-7.947	0.381	0.731	1.307	0.765-2.233	0.329
No. parks contained or intersected by buffer	0.455	1.008	-1.191-3.207	0.370	0.299	1.134	0.913-1.409	0.256
Areas of parks contained or intersected by buffer (km <sup>2</sup> )	0.640	-4.915	-22.461-12.63	0.584	0.817	0.368	0.03-4.502	0.435
No. POS contained or intersected by buffer	0.373	0.939	-0.879-2.757	0.312	0.316	1.119	0.937-1.336	0.215
Areas of POS contained or intersected by buffer (km <sup>2</sup> )	0.628	-5.047	-22.597-12.503	0.574	0.791	0.382	0.033-4.495	0.445

Abbreviations: *p.int*, *p*-value for interaction each POS and rain during the accelerometer wearing period;  $\beta$ , non-standardized coefficient OR, odds ratio; 95%CI, confidence interval; *p*, *p*-value.  $\beta$ , indicates change in 10 min bouts OB-MVPA per minutes per day (min/day) per increment (in 1 km, 1 km<sup>2</sup> or count) in access to public open spaces (POS). All coefficients are adjusted for individual-level covariate (sex, age, education level and self-rated health). <sup>a</sup> GAMMs with gaussian variance and identity link functions. <sup>b</sup> GAMM with binomial variance and logit link functions.

