

Supplementary Data Table 1. Associations between bicycling injury and infrastructural characteristics at intersections, comparison of N=210 injury sites and N=272 control sites, all at intersections. Odds ratios (OR) and 95% confidence intervals (CI) from logistic regression.

Variable	# injury sites/ # control sites	Each variable considered separately OR (95% CI)	Multiple regression model with all significant variables OR (95% CI)
Route types meeting at intersection			
Minor-Separated	2 / 4	0.37 (0.06 – 2.46)	0.17 (0.02 – 1.43)
Local-Local	47 / 79	0.34 (0.16 – 0.71)	0.19 (0.05 – 0.66)
Major-Separated	5 / 8	0.28 (0.07 – 1.41)	0.23 (0.03 – 1.60)
Local-Separated	9 / 8	0.87 (0.21 – 3.60)	0.39 (0.05 – 2.80)
Major-Local	47 / 70	0.47 (0.25 – 0.89)	0.44 (0.18 – 1.09)
Minor-Local	27 / 30	0.64 (0.28 – 1.45)	0.70 (0.21 – 2.34)
Major-Minor	25 / 31	0.76 (0.37 – 1.54)	0.72 (0.31 – 1.66)
Major-Major	40 / 34	1 (reference)	1 (reference)
Minor-Minor	8 / 8	0.96 (0.29 – 3.16)	1.02 (0.23 – 4.54)
Intersection type			
Stop sign, 4-way	6 / 16	0.42 (0.14 – 1.30)	0.76 (0.15 – 3.78)
Traffic light, with cyclist controls	21 / 27	0.73 (0.34 – 1.59)	0.78 (0.28 – 2.19)
Stop sign, 2-way	82 / 130	0.65 (0.40 – 1.07)	1.00 (0.43 – 2.31)
Traffic light, with no cyclist controls	70 / 79	1 (reference)	1 (reference)
Uncontrolled	12 / 11	1.06 (0.41 – 2.75)	2.96 (0.84 – 10.48)
Traffic circle	19 / 9	2.11 (0.79 – 5.63)	7.98 (1.79 – 35.57)
Motor vehicle speed (on streets)			
≤ 30 km/h	57 / 97	0.61 (0.40 – 0.94)	0.52 (0.29 – 0.92)
> 30 to 50 km/h	145 / 164	1 (reference)	1 (reference)
> 50 to 60 km/h	7 / 9	0.72 (0.23 – 2.26)	1.15 (0.24 – 5.49)
> 60 km/h	1 / 2	0.53 (0.04 – 6.38)	1.09 (0.07 – 16.31)
Cyclist travel direction			
Same as motor vehicle traffic	192 / 260	1 (reference)	1 (reference)
Opposite to motor vehicle traffic	18 / 12	3.11 (1.11 – 8.66)	7.82 (2.02 – 30.27)
Route grade (in the direction of cyclist travel)			
Uphill (≥ 1°)	24 / 68	0.53 (0.27 – 1.02)	0.47 (0.22 – 1.004)
Flat	68 / 101	1 (reference)	1 (reference)
Downhill (≤ - 1°)	118 / 103	2.07 (1.26 – 3.40)	2.22 (1.21 – 4.08)
Cyclist traffic per hour			
0	36 / 62	1 (reference)	1 (reference)
> 0 - 25	63 / 69	1.72 (0.94 – 3.16)	2.32 (1.09 – 4.94)
> 25 - 75	33 / 60	1.07 (0.53 – 2.16)	1.72 (0.68 – 4.32)
> 75	78 / 81	2.20 (1.06 – 4.55)	3.04 (1.17 – 7.93)
Bike or pedestrian infrastructure			
Cycle track or bike path	0 / 2	0 (0 - >1000)	not retained in model

Traffic diverter on local street	7 / 12	0.52 (0.15 – 1.75)	
Traffic slowing device on local street	14 / 28	0.53 (0.22 – 1.28)	
Bike signage only	34 / 35	1.12 (0.56 – 2.26)	
Bike lane	26 / 27	1.73 (0.81 – 3.69)	
Multi-use path	2 / 4	0.31 (0.03 – 3.27)	
Sidewalk	14 / 14	1.45 (0.50 – 4.16)	
Sharrows or shared lane	6 / 7	1.36 (0.34 – 5.42)	
Not in any of above categories	107 / 143	1 (reference)	
Streetcar or train tracks (within 5 m diameter of site)			not retained in model
No	162 / 224	1 (reference)	
Yes	48 / 48	3.18 (1.30 – 7.73)	
Construction present			not retained in model
No	195 / 248	1 (reference)	
Yes	15 / 24	0.72 (0.35 – 1.48)	
Posted motor vehicle speed (on streets)			not retained in model
No posted speed limit	16 / 19	1.12 (0.44 – 2.82)	
20 km/h	2 / 1	2.08 (0.18 – 23.39)	
30 km/h	17 / 13	1.58 (0.74 – 3.36)	
40 km/h	17 / 26	0.86 (0.35 – 2.12)	
50 km/h	158 / 211	1 (reference)	
60 km/h	0 / 1	0 (0 - >1000)	
80 km/h	0 / 1	0 (0 - >1000)	
Motor vehicle traffic per hour (on streets)			not retained in model
0	7 / 6	1 (reference)	
> 0 - 100	23 / 44	0.37 (0.11 – 1.27)	
> 100 - 500	39 / 58	0.58 (0.17 – 1.90)	
> 500 - 1000	31 / 53	0.54 (0.17 – 1.78)	
> 1000	110 / 111	1.02 (0.33 – 3.16)	
Pedestrian traffic per hour (on sidewalks or paths)			not retained in model
0	61 / 99	1 (reference)	
> 0 - 25	51 / 56	1.56 (0.93 – 2.63)	
> 25 - 75	43 / 37	2.22 (1.20 – 4.11)	
> 75	55 / 80	1.17 (0.66 – 2.08)	
Parked cars on cyclist's side of major or minor streets			not retained in model
No	147 / 197	1 (reference)	
Yes	63 / 75	1.15 (0.72 – 1.84)	
Paved surface			not retained in model
No	0 / 0	1 (reference)	
Yes	210 / 272	N/A (all paved)	

Junctions (driveways, alleys, laneways, and bus stops within -100 m of site)			not retained in model
No	33 / 45	1 (reference)	
Yes	177 / 227	1.18 (0.68 – 2.05)	
Distance visible (forward along route)			not retained in model
< 20 m	1 / 2	0.50 (0.05 – 5.51)	
≥ 20 m	209 / 270	1 (reference)	
Street lights present			not retained in model
No	4 / 0	1 (reference)	
Yes	206 / 272	0 (0 - >1000)	
Time of day			not retained in model
Dawn, dusk, night	49 / 65	N/A (values the same at each injury & control site pair)	
Day	161 / 207	1 (reference)	
Street lights present and time of day			not retained in model
Dawn, dusk, night, no lights	1 / 0	>1000 (0 - >1000)	
Dawn, dusk, night, with lights	48 / 65	N/A (values the same at each injury & control site pair)	
Day	161 / 207	1 (reference)	
Land use			not retained in model
Local business, downtown business, shopping mall, parking lot, transport depot, industry or factory, institutional	137 / 183	1.04 (0.62 – 1.76)	
Residential	66 / 84	1 (reference)	
Park, waterway, agricultural, other	7 / 5	1.93 (0.50 – 7.49)	

Supplementary Data Table 2. Associations between bicycling injury and infrastructural characteristics at non-intersection locations, comparison of N=478 injury sites and N=801 control sites, all at non-intersection locations. Odds ratios (OR) and 95% confidence intervals (CI) from logistic regression.

Variable	# injury sites/ # control sites	Each variable considered separately OR (95% CI)	Multiple regression model with all significant variables OR (95% CI)
Bike or pedestrian infrastructure			
Traffic diverter on local street	2 / 14	0.06 (0.004 – 0.76)	0.04 (0.003 – 0.60)
Cycle track	2 / 17	0.05 (0.004 – 0.52)	0.05 (0.01 – 0.59)
Bike signage only	34 / 69	0.74 (0.44 – 1.26)	0.70 (0.40 – 1.23)
Bike lane	34 / 75	0.63 (0.38 – 1.05)	0.86 (0.50 – 1.47)
Bike path	21 / 44	0.78 (0.33 – 1.82)	0.88 (0.37 – 2.10)
Not in any of above categories	231 / 371	1 (reference)	1 (reference)
Traffic slowing device on local street	26 / 34	1.13 (0.57 – 2.24)	1.23 (0.61 – 2.51)
Multi-use path	74 / 114	1.11 (0.67 – 1.83)	1.14 (0.68 – 1.93)
Sidewalk	38 / 49	1.42 (0.81 – 2.51)	1.54 (0.84 – 2.79)
Sharrows or shared lane	16 / 14	2.07 (0.84 – 5.14)	1.99 (0.76 – 5.20)
Route grade (in the direction of cyclist travel)			
Uphill ($\geq 1^\circ$)	88 / 162	1.30 (0.91 – 1.85)	1.40 (0.96 – 2.06)
Flat	177 / 373	1 (reference)	1 (reference)
Downhill ($\leq -1^\circ$)	213 / 266	2.00 (1.48 – 2.71)	2.05 (1.48 – 2.85)
Streetcar or train tracks (within 5 m diameter of site)			
No	376 / 700	1 (reference)	1 (reference)
Yes	102 / 101	4.34 (2.49 – 7.55)	4.15 (2.31 – 7.45)
Construction present			
No	408 / 746	1 (reference)	1 (reference)
Yes	70 / 55	2.74 (1.81 – 4.14)	2.67 (1.70 – 4.19)
Route type			
Major	178 / 262	1 (reference)	not retained in model
Minor	55 / 93	0.82 (0.52 – 1.28)	
Local	110 / 222	0.64 (0.41 – 0.98)	
Separated	135 / 224	0.97 (0.62 – 1.52)	
Motor vehicle speed (on streets)			
≤ 30 km/h	226 / 389	1 (reference)	not retained in model
> 30 to 50 km/h	229 / 363	0.96 (0.72 – 1.28)	
> 50 to 60 km/h	13 / 37	0.53 (0.26 – 1.08)	
> 60 km/h	7 / 12	0.93 (0.32 – 2.67)	
Posted motor vehicle speed (on streets)			
No posted speed	135 / 224	1.37 (0.94 – 2.00)	not retained in model
20 km/h	14 / 11	3.04 (1.11 – 8.31)	
30 km/h	23 / 37	1.34 (0.73 – 2.45)	
40 km/h	48 / 71	1.45 (0.83 – 2.53)	

50 km/h	254 / 451	1 (reference)	
60 km/h	2 / 5	0.76 (0.15 – 4.01)	
80 km/h	1 / 2	1.09 (0.06 – 21.54)	
90 km/h	1 / 0	>1000 (0 - >1000)	
Motor vehicle traffic per hour (on streets)			not retained in model
0	156 / 250	1.43 (1.01 – 2.04)	
> 0 - 100	64 / 147	1 (reference)	
> 100 - 500	71 / 111	1.47 (0.97 – 2.23)	
> 500 - 1000	98 / 162	1.39 (0.94 – 2.04)	
> 1000	89 / 131	1.56 (1.05 – 2.32)	
Cyclist travel direction			not retained in model
Same as motor vehicle traffic	452 / 754	1 (reference)	
Opposite to motor vehicle traffic	26 / 47	0.97 (0.54 – 1.74)	
Cyclist traffic per hour			not retained in model
0	141 / 262	1 (reference)	
> 0 - 25	128 / 195	1.25 (0.89 – 1.76)	
> 25 - 75	103 / 151	1.24 (0.85 – 1.82)	
> 75	106 / 193	0.94 (0.61 – 1.45)	
Pedestrian traffic per hour (on sidewalks or paths)			not retained in model
0	393 / 662	1 (reference)	
> 0 - 25	24 / 50	0.93 (0.55 – 1.59)	
> 25 - 75	23 / 42	1.06 (0.57 – 1.95)	
> 75	38 / 47	1.66 (0.96 – 2.84)	
Parked cars on cyclist's side of major or minor streets			not retained in model
No	353 / 628	1 (reference)	
Yes	125 / 173	1.21 (0.88 – 1.67)	
Paved surface			not retained in model
No	15 / 24	1 (reference)	
Yes	463 / 777	0.89 (0.34 – 2.31)	
Junctions (driveways, alleys, laneways, and bus stops within -100 m of site)			not retained in model
No	57 / 107	1 (reference)	
Yes	420 / 694	1.11 (0.77 – 1.62)	
Distance visible (forward along route)			not retained in model
< 20 m	11 / 13	1.42 (0.63 – 3.20)	
≥ 20 m	467 / 788	1 (reference)	
Street lights present			not retained in model
No	61 / 95	1 (reference)	
Yes	417 / 706	0.77 (0.49 – 1.20)	

Time of day			not retained in model
Dawn, dusk, night	105 / 179	3.31 (0.61 – 17.95)	
Day	373 / 622	1 (reference)	
Street lights present and time of day			not retained in model
Dawn, dusk, night, no lights	8 / 17	2.86 (0.48 – 17.22)	
Dawn, dusk, night, with lights	97 / 162	3.65 (0.64 – 20.80)	
Day	373 / 622	1 (reference)	
Land use			not retained in model
Local business, downtown business, shopping mall, parking lot, transport depot, industry or factory, institutional	317 / 494	1.44 (1.10 – 2.05)	
Residential	81 / 175	1 (reference)	
Park, waterway, agricultural, other	80 / 132	1.56 (0.96 – 2.54)	