

Supplemental Information

Gender, Weather, and Time of Day: Active Travel Observations in Greater Sydney, Australia

Table S1. Summary of active travel counts

Variable	Number of observation entries (each observer in each observation session can only have one entry)	Total cyclist count (%) (64.1% regular bikes, 35.9% e-bikes)		Total pedestrian count (%)	
		Female	Male	Female	Male
Weather					
Cloudy/rainy	8	44 (19.3%)	184 (80.7%)	1069 (53.5%)	928 (46.5%)
Sunny	42	634 (21.7%)	2284 (78.3%)	3468 (47.7%)	3803 (52.3%)
Time					
Weekday morning peak session	10	208 (24.0%)	658 (76.0%)	1166 (51.3%)	1106 (48.7%)
Weekday morning off-peak session	10	64 (21.8%)	229 (78.2%)	673 (51.7%)	629 (48.3%)
Weekday afternoon off-peak session	10	70 (19.3%)	292 (80.7%)	487 (47.5%)	538 (52.5%)
Weekday afternoon peak session	10	204 (20.8%)	777 (79.2%)	1380 (48.4%)	1471 (51.6%)
Saturday	10	132 (20.5%)	512 (79.5%)	831 (45.7%)	987 (54.3%)
Site					
MP	20	479 (23.2%)	1589 (76.8%)	617 (45.5%)	738 (54.5%)
MQ	20	23 (13.1%)	153 (86.9%)	1962 (49.8%)	1975 (50.2%)
BB	10	176 (19.5%)	726 (80.5%)	1958 (49.2%)	2018 (50.8%)
Total	50	678	2468	4537	4731

Note: MP, Moore Park Road Pop-up Cycleway. MQ, Shared Path from North Ryde Station to Macquarie Centre. BB, Bennelong Bridge. Each 'session' lasted two hours.

Table S2. The effects of weather and time of day on active travel volume - females

	IRR (95% CI) for cyclist			IRR (95% CI) for pedestrian	
	All sites (n=50)	MP+MQ (n=40)	MQ+BB (n=30)	All sites (n=50)	MQ+BB (n=30)
<i>Weather</i>					

Apparent temperature (per 1 °C increase)	0.90* (0.83, 0.98)	0.84*** (0.77, 0.92)	0.25*** (0.16, 0.40)	1.07 (0.99, 1.16)	0.75 (0.53, 1.07)
Time of day					
Reference: weekday morning peak session					
Weekday morning off-peak session	0.40 (0.14, 1.11)	0.26* (0.08, 0.85)	0.49 (0.15, 1.58)	0.52 (0.20, 1.39)	0.55 (0.23, 1.33)
Weekday afternoon off-peak session	1.48 (0.40, 5.53)	4.83* (1.12, 20.82)	19.97*** (3.94, 101.14)	0.33 (0.09, 1.18)	0.88 (0.26, 2.97)
Weekday afternoon peak session	4.38* (1.19, 16.20)	14.76*** (3.46, 62.94)	56.16*** (11.62, 271.44)	0.93 (0.26, 3.32)	2.41 (0.71, 8.16)
Saturday session	1.30 (0.46, 3.65)	1.14 (0.30, 4.36)	7.86*** (2.34, 26.45)	0.60 (0.22, 1.64)	0.98 (0.33, 2.87)
Reference: weekday morning off-peak session					
Weekday afternoon off-peak session	3.72 (0.97, 14.30)	18.59*** (3.85, 89.66)	40.43*** (7.12, 229.45)	0.63 (0.18, 2.26)	1.59 (0.47, 5.39)
Weekday afternoon peak session	11.00*** (2.89, 41.85)	56.77*** (11.88, 271.35)	113.69*** (20.92, 617.75)	1.79 (0.50, 6.37)	4.37* (1.29, 14.80)
Saturday session	3.26* (1.13, 9.42)	4.40* (1.09, 17.82)	15.91*** (4.28, 59.10)	1.14 (0.41, 3.16)	1.78 (0.60, 5.21)
Reference: weekday afternoon off-peak session					
Weekday afternoon peak session	2.96* (1.09, 8.01)	3.05* (1.03, 9.02)	2.81* (1.02, 7.75)	2.83* (1.06, 7.54)	2.75* (1.14, 6.64)
Reference: weekday afternoon peak session					
Saturday session	0.30 (0.09, 1.02)	0.08** (0.02, 0.39)	0.14** (0.04, 0.51)	0.64 (0.19, 2.15)	0.41 (0.14, 1.15)

Notes: IRR, incidence rate ratio. CI, confidence interval. MP, Moore Park Road Pop-up Cycleway. MQ, Shared Path from North Ryde Station to Macquarie Centre. BB, Bennelong Bridge. ***, $p < 0.001$. **, $p < 0.01$. *, $p < 0.05$. Statistically significant results ($p < 0.05$) are shown in bold. Each 'session' lasted two hours.

Table S3. The effects of weather and time of day on active travel volume - males

	IRR (95% CI) for cyclist			IRR (95% CI) for pedestrian	
	All sites (n=50)	MP+MQ (n=40)	MQ+BB (n=30)	All sites (n=50)	MQ+BB (n=30)
Weather					
Apparent temperature (per 1 °C increase)	0.92* (0.86, 0.99)	0.90** (0.84, 0.96)	0.35*** (0.24, 0.51)	1.07 (0.99, 1.16)	0.73* (0.54, 0.98)
Time of day					
Reference: weekday morning peak session					
Weekday morning off-peak session	0.47 (0.20, 1.11)	0.28** (0.11, 0.69)	0.71 (0.27, 1.85)	0.56 (0.22, 1.45)	0.55 (0.26, 1.13)
Weekday afternoon off-peak session	1.45 (0.48, 4.38)	2.03 (0.65, 6.31)	11.05*** (2.95, 41.41)	0.35 (0.10, 1.18)	0.91 (0.33, 2.49)
Weekday afternoon peak session	3.93* (1.30, 11.85)	5.86** (1.89, 18.16)	25.71*** (6.92, 95.55)	0.96 (0.28, 3.29)	2.61 (0.95, 7.13)
Saturday session	1.39 (0.58, 3.35)	1.10 (0.37, 3.24)	6.41** (2.07, 19.88)	0.79 (0.30, 2.11)	1.24 (0.51, 3.02)
Reference: weekday morning off-peak session					
Weekday afternoon off-peak session	3.07* (1.01, 9.40)	7.26*** (2.27, 23.15)	15.62*** (4.11, 59.32)	0.62 (0.18, 2.12)	1.66 (0.60, 4.57)
Weekday afternoon peak session	8.31*** (2.74, 25.25)	20.96*** (6.59, 66.60)	36.35*** (9.65, 136.88)	1.72 (0.50, 5.88)	4.78** (1.74, 13.10)
Saturday session	2.94* (1.22, 7.13)	3.92* (1.31, 11.74)	9.07*** (2.90, 28.38)	1.42 (0.53, 3.78)	2.28 (0.94, 5.55)
Reference: weekday afternoon off-peak session					

Weekday afternoon peak session	2.71* (1.16, 6.33)	2.89* (1.19, 6.99)	2.33 (0.92, 5.89)	2.78* (1.08, 7.17)	2.87** (1.39, 5.95)
Reference: weekday afternoon peak session					
Saturday session	0.35 (0.12, 1.01)	0.19* (0.05, 0.68)	0.25* (0.08, 0.75)	0.82 (0.26, 2.65)	0.48 (0.20, 1.13)

Notes: IRR, incidence rate ratio. CI, confidence interval. MP, Moore Park Road Pop-up Cycleway. MQ, Shared Path from North Ryde Station to Macquarie Centre. BB, Bennelong Bridge. ***, $p < 0.001$. **, $p < 0.01$. *, $p < 0.05$. Statistically significant results ($p < 0.05$) are shown in **bold**. Each 'session' lasted two hours.

Table S4. Wald test for female vs male coefficients - all sites

All sites – female vs male coefficients	Cyclist		Pedestrian	
	Diff	P	Diff	P
50 observations				
Cloudy/rainy vs Sunny	-0.09	0.905	0.29	0.688
AT	-0.02	0.727	0.00	0.954
Morning non-rush hour vs Morning rush hour	-0.17	0.802	-0.07	0.918
Afternoon non-rush hour vs Morning rush hour	0.02	0.979	-0.05	0.954
Afternoon rush hour vs Morning rush hour	0.11	0.900	-0.04	0.969
Saturday vs Morning rush hour	-0.07	0.921	-0.29	0.689
Afternoon non-rush hour vs Morning non-rush hour [#]	0.19	0.828	0.02	0.983
Afternoon rush hour vs Morning non-rush hour	0.28	0.752	0.04	0.968
Saturday vs Morning non-rush hour	0.10	0.885	-0.22	0.764
Afternoon rush hour vs Afternoon non-rush hour [#]	0.09	0.896	0.02	0.981
Saturday vs Afternoon non-rush hour	-0.09	0.913	-0.24	0.784
Saturday vs Afternoon rush hour [#]	-0.18	0.829	-0.25	0.769

Table S5. Wald test for female vs male coefficients - MP+MQ

MP+MQ– female vs male coefficients	Cyclist		Pedestrian	
	Diff	P	Diff	P
40 observations				
Cloudy/rainy vs Sunny	-0.17	0.891	0.48	0.704
AT	-0.06	0.285	-0.01	0.929
Morning non-rush hour vs Morning rush hour	-0.07	0.923	-0.12	0.883
Afternoon non-rush hour vs Morning rush hour	0.87	0.358	-0.13	0.897
Afternoon rush hour vs Morning rush hour	0.92	0.325	-0.02	0.985
Saturday vs Morning rush hour	0.04	0.962	-0.41	0.678
Afternoon non-rush hour vs Morning non-rush hour [#]	0.94	0.345	-0.01	0.990
Afternoon rush hour vs Morning non-rush hour	1.00	0.315	0.10	0.922
Saturday vs Morning non-rush hour	0.12	0.898	0.29	0.769
Afternoon rush hour vs Afternoon non-rush hour [#]	0.06	0.938	0.11	0.888
Saturday vs Afternoon non-rush hour	-0.83	0.436	-0.28	0.813
Saturday vs Afternoon rush hour [#]	-0.88	0.403	-0.39	0.739

Table S6. Wald test for female vs male coefficients - MQ+BB

MQ+BB– female vs male coefficients	Cyclist		Pedestrian	
	Diff	P	Diff	P
30 observations				

Cloudy/rainy vs Sunny	0.17	0.785	0.26	0.602
AT	-0.32	0.277	0.03	0.898
Morning non-rush hour vs Morning rush hour	-0.36	0.641	0.01	0.984
Afternoon non-rush hour vs Morning rush hour	0.59	0.579	-0.04	0.965
Afternoon rush hour vs Morning rush hour	0.78	0.455	-0.08	0.923
Saturday vs Morning rush hour	0.20	0.810	-0.24	0.738
Afternoon non-rush hour vs Morning non-rush hour [#]	0.95	0.395	-0.05	0.953
Afternoon rush hour vs Morning non-rush hour	1.14	0.299	-0.09	0.911
Saturday vs Morning non-rush hour	0.56	0.526	-0.25	0.726
Afternoon rush hour vs Afternoon non-rush hour [#]	0.19	0.787	-0.04	0.942
Saturday vs Afternoon non-rush hour	-0.39	0.663	-0.20	0.770
Saturday vs Afternoon rush hour [#]	-0.58	0.505	-0.16	0.817

Alternative method to compare female and male analysis

- Combine female and male data into one dataset
- Negative binomial regression including interaction terms

Results

$p > 0.05$ for all interactions