

APPENDICES

Appendix A:
Traffic Flow Information
Used in the Air Quality Assessment

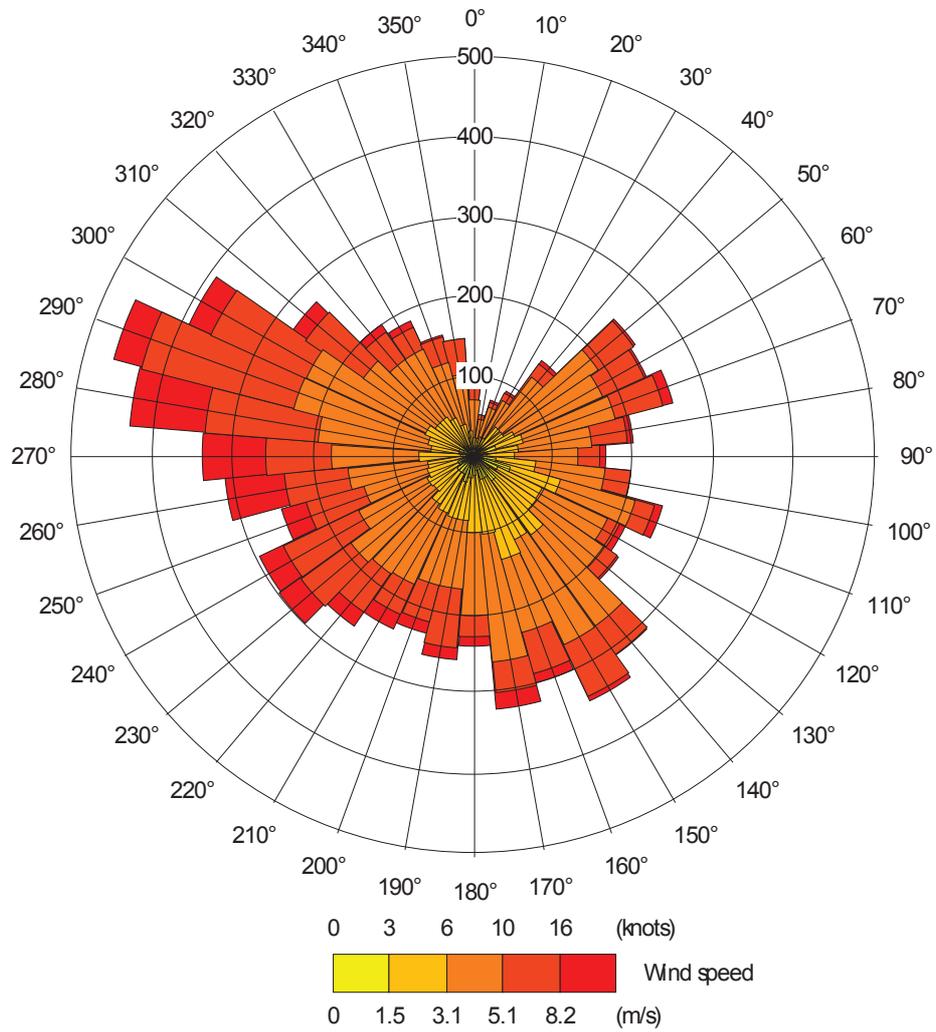


24 Hour Annual Average Daily Traffic (AADT) Flows, provided by Vectio Consulting on 25th March 2018

Link	Link Name	Speed Limit (kph)	2016 Base Year Verification*		2023 Opening/Future Year - Without Development + Committed Development		2023 Opening/Future Year - With Development + Committed Development	
			LGV	HGV	LGV	HGV	LGV	HGV
1	Queens Wharf	32	2708	318	3598	422	3984	467
2	Keel Wharf	24	429	89	470	98	470	98
3	Monarchs Quay	32	2352	273	3436	399	3590	417
4	A5036 Wapping Northbound	48	13570	1868	16998	2340	17030	2344
5	A5036 Wapping Southbound		14409	1984	18049	2485	18084	2489
6	A562 Chaloner Street Northbound	48	13068	1681	16421	2113	16573	2132
7	A562 Chaloner Street Southbound		13876	1785	17437	2244	17598	2264
8	A5036 The Strand Northbound	48	13570	1868	16998	2340	17030	2344
9	A5036 The Strand Southbound		14409	1984	18049	2485	18084	2489
10	Water Street	48	3169	915	3801	1097	3815	1101

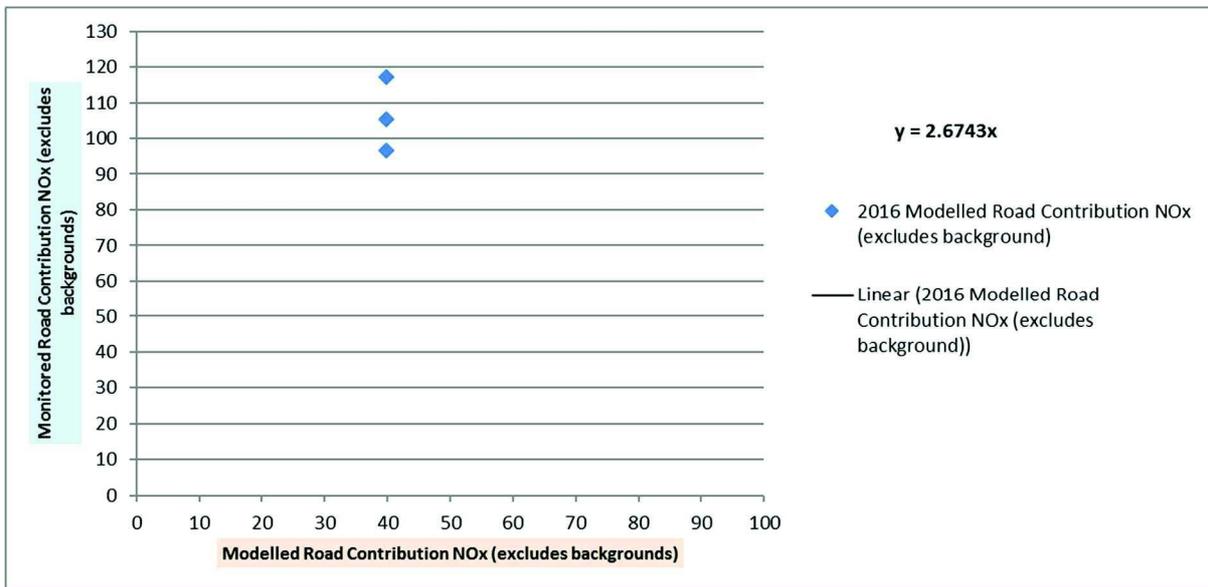
*To keep consistency with 2016 met data and 2016 AQ monitoring data, 2016 traffic data has been generated from 2017 observed traffic data using adjustment factor provided by Vectio Consulting.

Appendix B:
2016 Wind Rose for Liverpool Airport Meteorological Recording Station

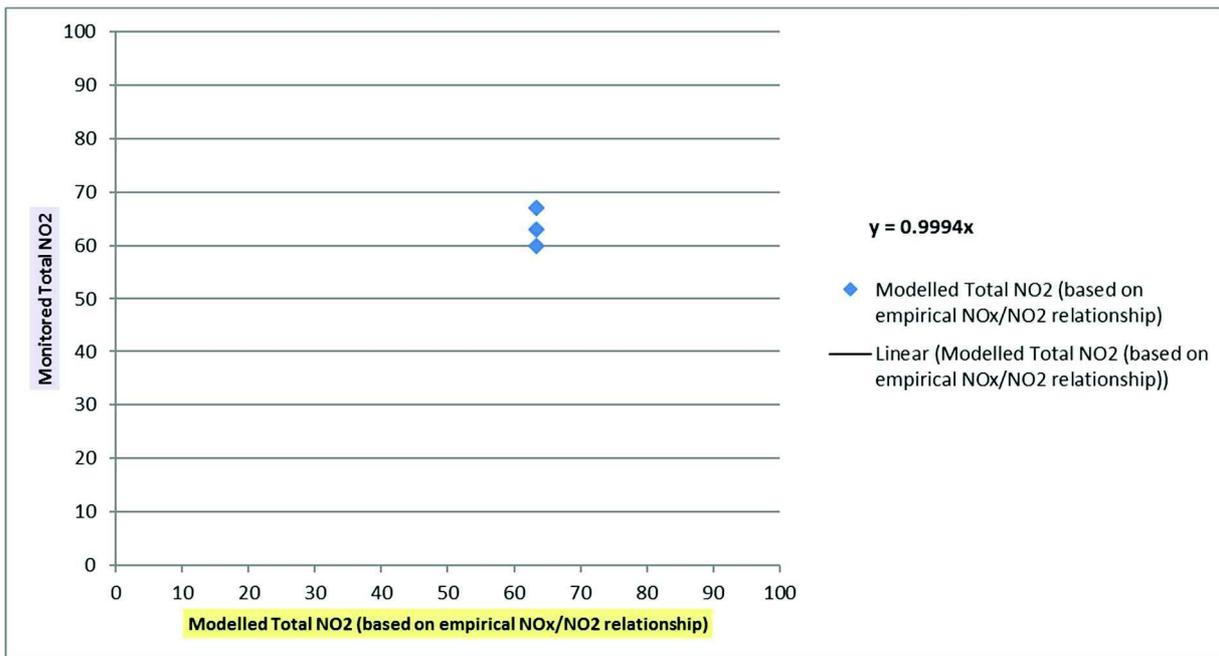
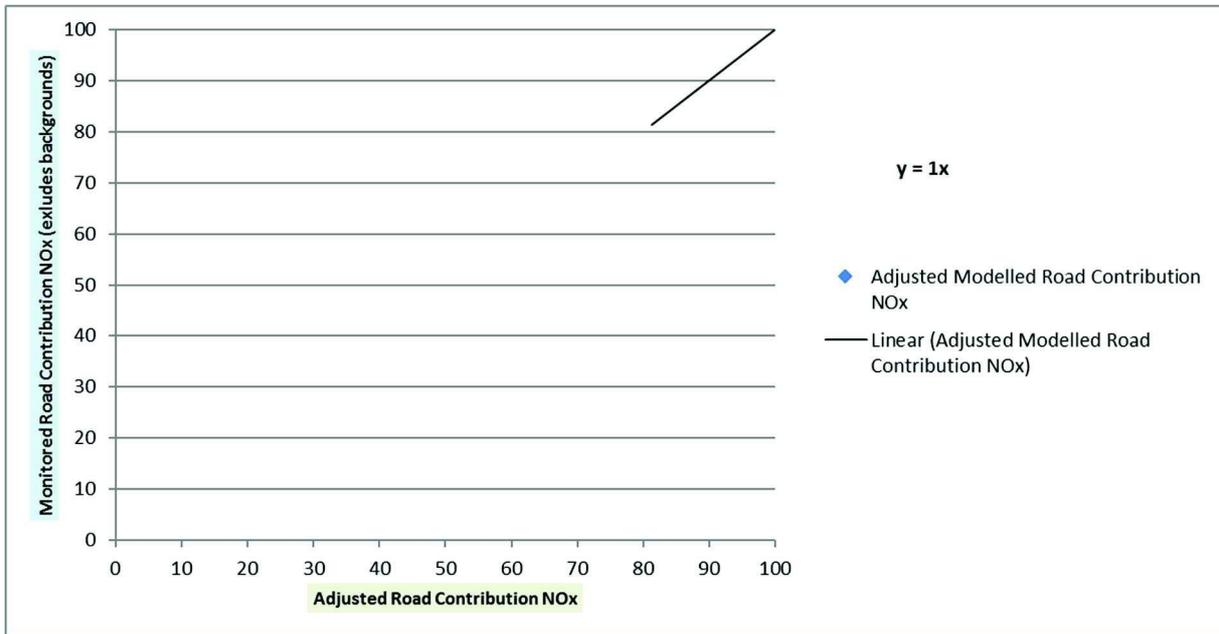


Appendix C:
Model Verification Procedure

Address	2016 Monitored Total NO2	2016 Monitored Total NOx	2016 Background NO2	2016 Background NOx	Monitored Road Contribution NO2 (total - background)	Monitored Road Contribution NOx (excludes background)	Modelled Road Contribution NOx (excludes background)
The Strand/Water St 1	67	144.72	19.18	27.48	47.82	117.24	39.77
The Strand/Water St 2	60	124.02	19.18	27.48	40.82	96.54	39.77
The Strand/Water St 3	63	132.75	19.18	27.48	43.82	105.27	39.77



Address	Ratio of Monitored Road Contribution NOx / Modelled Road Contribution NOx	Adjustment Factor for Modelled Road Contribution	Adjusted Modelled Road Contribution NOx	Adjusted Modelled Total NOx (including background NOx)	Modelled Total NO2 (based on empirical NOx / NO2 relationship)	Monitored Total NO2	% Difference [(modelled - monitored) / monitored] x 100
The Strand/Water St 1	2.95	2.6743	106.35	133.83	63.37	67.00	-5.42
The Strand/Water St 2	2.43		106.35	133.83	63.37	60.00	5.62
The Strand/Water St 3	2.65		106.35	133.83	63.37	63.00	0.59



Appendix D:
Air Quality Assessment Results

Annual Mean NO_x, NO₂, PM₁₀ and PM_{2.5} Concentrations in µg/m³

Receptor	Scenario 1: 2016 Verification and Base Year			Scenario 2: 2023 Opening/Future Year – Without Development + Committed Development			Scenario 3: 2023 Opening/Future Year - With Development + Committed Development		
	NO ₂ (Adjusted)	PM ₁₀ (Unadjusted)	PM _{2.5} (Unadjusted)	NO ₂ (Adjusted)	PM ₁₀ (Unadjusted)	PM _{2.5} (Unadjusted)	NO ₂ (Adjusted)	PM ₁₀ (Unadjusted)	PM _{2.5} (Unadjusted)
ESR 1	47.46	14.38	14.03	30.90	14.03	8.54	31.04	14.05	8.55
ESR 2	33.69	11.99	11.65	22.14	11.65	7.29	22.24	11.66	7.29
ESR 3	36.90	12.94	12.55	24.26	12.55	7.78	24.32	12.56	7.78
ESR 4	41.08	13.25	12.89	26.82	12.89	7.96	26.86	12.90	7.97
ESR 5	40.21	13.18	12.82	26.28	12.82	7.92	26.31	12.82	7.92
ESR 6	23.96	12.18	11.74	16.79	11.74	7.33	16.85	11.75	7.34
ESR 7	21.45	12.07	11.60	15.22	11.60	7.26	15.24	11.60	7.26
PR1 – First Floor							18.47	11.89	7.42
PR1 – Second Floor							17.58	11.82	7.37
PR1 – Third Floor							16.93	11.76	7.34
PR1 – Fourth Floor							16.48	11.72	7.32
PR1 – Fifth Floor							16.12	11.69	7.30



PR1 – Sixth Floor							15.69	11.65	7.28
PR2 – First Floor							18.55	11.88	7.41
PR2 – Second Floor							17.33	11.78	7.36
PR2 – Third Floor							16.59	11.72	7.32
PR2 – Fourth Floor							16.14	11.68	7.30
PR2 – Fifth Floor							15.83	11.66	7.29
PR2 – Sixth Floor							15.48	11.63	7.27