

Appendix 6.2: Noise Survey Procedures and Results

Baseline Noise Survey

Baseline noise surveys were undertaken on the 21st and 22nd June 2010. The parameters logged throughout the survey period were LAeq, L_{Amax}, L_{Amin}, LA90 and LA10. The LAeq level is the equivalent continuous sound pressure level over the measurement period; L_{Amax} is an indicator of the highest sound level during the measurement period; the L_{Amin} is the lowest level during the measurement period; LA90 is used as a descriptor of background noise levels and LA10 is the noise level which is achieved for 10% of the monitoring period and is often used to describe road traffic noise.

The monitoring equipment used during the survey period is described in Table A1. The sound level meter was calibrated both before and after each monitoring period; no drift from the reference level of 94dB was recorded.

Table A1: Noise Monitoring Equipment

Instrument	Description	Serial Number
Level Meter (Class 1)	Rion NA-28 Sound Level Analyser	01170649
	Rion UC-59 Microphone	00741
	Rion NH-23 Preamplifier	70667
	WS-10 foam windshield	N/A
Calibrator	Rion NC-74	35173533

All measurements were undertaken under free-field conditions. Measurements were carried out at a height of approximately 1.4m. The weather was dry during the monitoring and wind speeds were less than 5m/s. A wind shield was fitted to the monitoring equipment at all times.

Monitoring was undertaken by trained and competent staff and is member of the IOA. The measurements are summarised below.

Table A2: Monitoring Location 1

	Start Time	Measurement Time	L _{Aeq,T} (dB(A))	L _{A10,T} (dB(A))	L _{A90,T} (dB(A))	L _{Amax} (dB(A))
2010	15:40:57	00:05:00	44.1	47.5	36.5	58.9
2010	15:45:57	00:05:00	41.8	44.6	35.4	60.3
2010	15:50:57	00:05:00	47.7	50.7	37.0	65.1
2010	22:38:09	00:05:00	38.3	42.6	28.4	52.2
2010	22:43:09	00:05:00	35.3	37.6	27.9	50.8
2010	22:48:09	00:05:00	35.5	40.1	27.6	50.7
2010	00:54:21	00:05:00	40.0	45.9	25.4	51.0
2010	00:59:21	00:05:00	35.6	35.8	25.4	52.8
2010	00:04:21	00:05:00	30.6	33.9	25.8	43.1

Table A3: Monitoring Location 2

Date	Start Time	Measurement Time	L _{Aeq,T} (dB(A))	L _{A10,T} (dB(A))	L _{A90,T} (dB(A))	L _{Amax} (dB(A))
21/06/2010	16:46:50	00:05:00	45.3	49.4	34.0	68.0
21/06/2010	16:51:50	00:05:00	48.7	51.2	36.1	76.3
21/06/2010	16:56:50	00:05:00	51.6	55.8	38.6	65.7
21/06/2010	22:15:10	00:05:00	36.0	36.4	23.6	54.1
21/06/2010	22:20:10	00:05:00	32.4	26.4	24.7	51.9
21/06/2010	22:25:10	00:05:00	40.6	42.2	24.7	59.6
22/07/2010	00:33:23	00:05:00	29.5	26.7	21.4	55.4
22/07/2010	00:38:23	00:05:00	26.6	31.1	21.8	36.2
22/07/2010	00:43:23	00:05:00	40.4	39.4	26.4	60.6

Table A4: Monitoring Location 3

Date	Start Time	Measurement Time	L _{Aeq,T} (dB(A))	L _{A10,T} (dB(A))	L _{A90,T} (dB(A))	L _{Amax} (dB(A))
21/06/2010	16:25:19	00:05:00	45.1	48.7	32.9	61.0
21/06/2010	16:30:19	00:05:00	45.9	50.0	32.7	61.2
21/06/2010	16:35:19	00:05:00	40.7	44.6	30.4	55.3
21/06/2010	21:33:17	00:05:00	34.0	36.7	28.9	57.3
21/06/2010	21:38:17	00:05:00	32.6	34.5	27.8	49.1
21/06/2010	21:43:17	00:05:00	31.7	33.4	27.9	48.2
21/06/2010	23:52:44	00:05:00	32.1	36.4	24.1	45.3
21/06/2010	23:57:44	00:05:00	25.4	28.1	22.0	41.8
22/06/2010	00:02:44	00:05:00	40.4	44.3	28.9	54.3

Table A5: Monitoring Location 4

Date	Start Time	Measurement Time	L _{Aeq,T} (dB(A))	L _{A10,T} (dB(A))	L _{A90,T} (dB(A))	L _{Amax} (dB(A))
21/06/2010	16:04:02	00:05:00	54	48.3	36.5	77.2
21/06/2010	16:09:02	00:05:00	53	50.1	36.5	72.4
21/06/2010	16:14:02	00:05:00	53.6	46.6	35.2	76.5
21/06/2010	21:56:52	00:05:00	55.3	50.4	22.7	75.7
21/06/2010	22:01:52	00:05:00	52.2	43.1	27.0	75.3
21/06/2010	22:06:52	00:05:00	55.5	52.3	25.8	76.4
22/06/2010	00:13:23	00:05:00	29.9	33.6	23.8	42.5
22/06/2010	00:18:23	00:05:00	25.1	26.2	22.9	41.5
22/06/2010	00:23:23	00:05:00	31.1	31.6	23.5	50.5

Table A6: Monitoring Location 5

Date	Start Time	Measurement Time	L _{Aeq,T} (dB(A))	L _{A10,T} (dB(A))	L _{A90,T} (dB(A))	L _{Amax} (dB(A))
21/06/2010	14:22:04	00:05:00	44.4	46.9	36.0	60.4
21/06/2010	14:27:04	00:05:00	39.0	41.7	34.6	51.7
21/06/2010	14:32:04	00:05:00	38.8	39.4	38.1	40.1
21/06/2010	23:13:26	00:05:00	38.0	41.0	32.8	57.6
21/06/2010	23:18:26	00:05:00	35.0	37.0	32.8	43.4
21/06/2010	22:23:26	00:05:00	38.2	37.4	33.7	65.9
22/06/2010	01:32:41	00:05:00	51.1	46.0	31.5	70.9
22/06/2010	01:37:41	00:05:00	35.4	35.2	61.5	58.9
22/06/2010	01:42:41	00:05:00	32.8	33.1	32.7	33.4

Table A7: Monitoring Location 6

Date	Start Time	Measurement Time	L _{Aeq,T} (dB(A))	L _{A10,T} (dB(A))	L _{A90,T} (dB(A))	L _{Amax} (dB(A))
22/06/2010	09:00:31	00:05:00	53.1	57.6	53.1	65.0
22/06/2010	09:05:31	00:05:00	56.4	60.4	56.4	68.1
22/06/2010	09:10:31	00:05:00	52.0	56.9	52.0	62.9
22/06/2010	09:15:31	00:05:00	53.6	58.1	53.6	63.4
22/06/2010	09:20:31	00:05:00	57.9	60.1	57.9	71.2
22/06/2010	09:25:31	00:05:00	55.1	56.5	55.1	72.5
22/06/2010	09:30:31	00:05:00	57.2	60.3	57.2	72.4
22/06/2010	09:35:31	00:05:00	61.1	59.0	61.1	79.9
22/06/2010	09:40:31	00:05:00	58.7	60.7	58.7	74.1
22/06/2010	09:45:31	00:05:00	58.6	63.6	58.6	67.3
22/06/2010	09:50:31	00:05:00	60.1	64.0	60.1	66.3
22/06/2010	09:55:31	00:05:00	60.2	63.5	60.2	65.3
22/06/2010	10:00:31	00:05:00	50.6	55.6	50.6	60.4
22/06/2010	10:05:31	00:05:00	54.7	58.0	54.7	69.6
22/06/2010	10:10:31	00:05:00	57.9	59.6	57.9	74.1
22/06/2010	10:15:31	00:05:00	60.5	61.6	60.5	75.2
22/06/2010	10:20:31	00:05:00	52.7	56.8	52.7	64.7
22/06/2010	10:25:31	00:05:00	51.9	56.5	51.9	63.6
22/06/2010	10:30:31	00:05:00	54.7	58.9	54.7	67.1
22/06/2010	10:35:31	00:05:00	54.8	58.6	54.8	65.7
22/06/2010	10:40:31	00:05:00	51.7	56.5	51.7	63.6

Date	Start Time	Measurement Time	L _{Aeq,T} (dB(A))	L _{A10,T} (dB(A))	L _{A90,T} (dB(A))	L _{Amax} (dB(A))
22/06/2010	10:45:31	00:05:00	56.7	55.7	56.7	73.4
22/06/2010	10:50:31	00:05:00	59.0	58.7	59.0	76.1
22/06/2010	10:55:31	00:05:00	55.1	58.4	55.1	68.0
22/06/2010	11:00:31	00:05:00	59.6	61.0	59.6	75.8
22/06/2010	11:05:31	00:05:00	57.9	60.1	57.9	73.4
22/06/2010	11:10:31	00:05:00	51.9	55.5	51.9	66.7
22/06/2010	11:15:31	00:05:00	53.9	57.2	53.9	70.2
22/06/2010	11:20:31	00:05:00	52.7	57.1	52.7	65.1
22/06/2010	11:25:31	00:05:00	53.5	57.7	53.5	66.4
22/06/2010	11:30:31	00:05:00	53.0	58.1	53.0	62.1
22/06/2010	11:35:31	00:05:00	55.4	58.6	55.4	67.8
22/06/2010	11:40:31	00:05:00	54.0	58.2	54.0	65.1
22/06/2010	11:45:31	00:05:00	49.1	54.3	49.1	58.0
22/06/2010	11:50:31	00:05:00	52.5	57.1	52.5	63.7
22/06/2010	11:55:31	00:05:00	59.3	62.6	59.3	73.5

Table A8: Monitoring Location 6 – Night-time

Date	Start Time	Measurement Time	L _{Aeq,T} (dB(A))	L _{A10,T} (dB(A))	L _{A90,T} (dB(A))	L _{Amax} (dB(A))
22/06/2010	03:00:31	00:05:00	46.4	40.3	24.0	65.9
22/06/2010	03:05:31	00:05:00	40.0	35.5	23.0	56.3
22/06/2010	03:10:31	00:05:00	52.1	43.8	25.5	70.3
22/06/2010	03:15:31	00:05:00	34.3	39.4	25.2	46.9
22/06/2010	03:20:31	00:05:00	42.0	41.8	24.2	58.0
22/06/2010	03:25:31	00:05:00	44.4	44.0	28.8	60.5
22/06/2010	03:30:31	00:05:00	41.2	45.8	29.0	49.2
22/06/2010	03:35:31	00:05:00	45.8	40.7	29.3	64.5
22/06/2010	03:40:31	00:05:00	47.0	48.5	29.8	61.2
22/06/2010	03:45:31	00:05:00	41.6	44.7	30.6	53.8
22/06/2010	03:50:31	00:05:00	45.6	47.7	30.3	61.3
22/06/2010	03:55:31	00:05:00	53.6	57.4	33.3	65.1
22/06/2010	04:00:31	00:05:00	48.0	53.0	31.4	60.6
22/06/2010	04:05:31	00:05:00	49.5	54.0	31.8	62.1
22/06/2010	04:10:31	00:05:00	63.9	68.6	31.2	76.8
22/06/2010	04:15:31	00:05:00	46.9	52.0	29.3	59.1

Date	Start Time	Measurement Time	L _{Aeq,T} (dB(A))	L _{A10,T} (dB(A))	L _{A90,T} (dB(A))	L _{Amax} (dB(A))
22/06/2010	04:20:31	00:05:00	55.4	47.9	27.7	75.3
22/06/2010	04:25:31	00:05:00	43.0	47.0	28.9	55.7
22/06/2010	04:30:31	00:05:00	47.4	51.8	30.8	59.2
22/06/2010	04:35:31	00:05:00	40.0	42.5	30.9	56.8
22/06/2010	04:40:31	00:05:00	45.8	49.3	30.5	57.6
22/06/2010	04:45:31	00:05:00	38.7	42.0	30.5	49.4
22/06/2010	04:50:31	00:05:00	59.3	51.1	32.7	80.1
22/06/2010	04:55:31	00:05:00	48.1	52.0	34.2	60.9
22/06/2010	05:00:31	00:05:00	40.1	42.6	32.5	53.5
22/06/2010	05:05:31	00:05:00	53.0	55.2	34.6	69.7
22/06/2010	05:10:31	00:05:00	48.2	51.0	33.6	60.6
22/06/2010	05:15:31	00:05:00	54.7	54.5	36.0	70.9
22/06/2010	05:20:31	00:05:00	49.6	51.3	37.1	62.1
22/06/2010	05:25:31	00:05:00	44.1	46.3	32.2	57.7
22/06/2010	05:30:31	00:05:00	53.4	56.6	31.2	68.1
22/06/2010	05:35:31	00:05:00	53.4	57.4	37.9	65.5
22/06/2010	05:40:31	00:05:00	55.4	60.3	40.9	66.4
22/06/2010	05:45:31	00:05:00	52.8	56.9	36.7	64.0
22/06/2010	05:50:31	00:05:00	58.3	59.6	35.6	76.4
22/06/2010	05:55:31	00:05:00	55.7	59.5	43.2	68.5
22/06/2010	06:00:31	00:05:00	53.2	59.0	37.8	62.3
22/06/2010	06:05:31	00:05:00	57.1	61.6	40.0	67.3
22/06/2010	06:10:31	00:05:00	59.1	58.2	37.0	76.5
22/06/2010	06:15:31	00:05:00	55.5	60.1	38.0	66.1
22/06/2010	06:20:31	00:05:00	56.8	60.3	41.3	70.3
22/06/2010	06:25:31	00:05:00	56.5	61.0	41.2	66.4
22/06/2010	06:30:31	00:05:00	54.3	59.0	37.9	65.0
22/06/2010	06:35:31	00:05:00	57.0	61.3	44.1	67.2
22/06/2010	06:40:31	00:05:00	56.2	60.5	41.3	68.6
22/06/2010	06:45:31	00:05:00	58.7	62.2	47.4	70.4
22/06/2010	06:50:31	00:05:00	55.7	60.1	43.1	65.9
22/06/2010	06:55:31	00:05:00	58.8	62.5	45.1	69.3

Table A9: Monitoring Location 7

Date	Start Time	Measurement Time	L _{Aeq,T} (dB(A))	L _{A10,T} (dB(A))	L _{A90,T} (dB(A))	L _{Amax} (dB(A))
22/06/2010	13:16:06	00:05:00	65.7	67.9	38.6	84.9
22/06/2010	13:21:06	00:05:00	64.5	67.4	38.3	84.2
22/06/2010	13:26:06	00:05:00	61.4	60.1	35.9	78.7
22/06/2010	13:31:06	00:05:00	63.9	61.3	36.3	86.5
22/06/2010	13:36:06	00:05:00	62.5	65.6	38.9	78.3
22/06/2010	13:41:06	00:05:00	65.1	68.8	39.7	83.0
22/06/2010	13:46:06	00:05:00	66.0	68.8	34.7	87.6
22/06/2010	13:51:06	00:05:00	60.5	60.9	37.5	77.8
22/06/2010	13:56:06	00:05:00	64.1	67.5	39.8	79.9
22/06/2010	14:01:06	00:05:00	67.0	69.6	43.2	87.7
22/06/2010	14:06:06	00:05:00	64.8	67.8	37.9	84.9
22/06/2010	14:11:06	00:05:00	59.3	57.9	39.4	76.5
22/06/2010	14:16:06	00:05:00	64.3	68.9	45.2	80.1
22/06/2010	14:21:06	00:05:00	65.8	69.1	42.7	82.7
22/06/2010	14:26:06	00:05:00	64.6	69.4	42.2	78.4
22/06/2010	14:31:06	00:05:00	68.4	70.8	41.4	88.8
22/06/2010	14:36:06	00:05:00	63.6	67.2	42.1	80.5
22/06/2010	14:41:06	00:05:00	66.0	70.0	42.3	82.5
22/06/2010	14:46:06	00:05:00	67.3	70.7	45.3	85.6
22/06/2010	14:51:06	00:05:00	65.0	63.2	36.3	85.9
22/06/2010	14:56:06	00:05:00	65.3	68.4	41.6	83.8
22/06/2010	15:01:06	00:05:00	68.1	70.0	40.0	92.6
22/06/2010	15:06:06	00:05:00	66.1	69.6	44.9	85.2
22/06/2010	15:11:06	00:05:00	63.1	62.8	36.1	84.1
22/06/2010	15:16:06	00:05:00	66.3	70.4	38.8	83.2
22/06/2010	15:21:06	00:05:00	64.4	67.1	42.2	83.4
22/06/2010	15:26:06	00:05:00	65.2	66.7	38.4	83.4
22/06/2010	15:31:06	00:05:00	64.9	69.9	40.9	79.0
22/06/2010	15:36:06	00:05:00	64.3	69.4	41.4	80.7
22/06/2010	15:41:06	00:05:00	64.2	66.8	41.9	83.5
22/06/2010	15:46:06	00:05:00	63.9	67.0	40.8	80.2
22/06/2010	15:51:06	00:05:00	66.3	68.4	43.0	85.6
22/06/2010	15:56:06	00:05:00	64.7	68.0	41.7	86.2

Date	Start Time	Measurement Time	L _{Aeq,T} (dB(A))	L _{A10,T} (dB(A))	L _{A90,T} (dB(A))	L _{Amax} (dB(A))
22/06/2010	16:01:06	00:05:00	66.0	69.2	42.0	85.5
22/06/2010	16:06:06	00:05:00	65.7	70.7	43.1	81.9
22/06/2010	16:11:06	00:05:00	64.6	67.5	38.1	78.6

Table A10: Monitoring Location 8

Date	Start Time	Measurement Time	L _{Aeq,T} (dB(A))	L _{A10,T} (dB(A))	L _{A90,T} (dB(A))	L _{Amax} (dB(A))
22/06/2010	16:19:17	00:05:00	44.5	46.8	39.7	60.3
22/06/2010	16:24:17	00:05:00	51.3	54.1	39.6	68.1
22/06/2010	16:29:17	00:05:00	49.5	48.9	40.9	73.0