

APPENDIX 14.6

SCOTTISH TRANSPORT ANALYSIS GUIDANCE LOCAL  
AIR QUALITY APPRAISAL

## SCOTTISH TRANSPORT ANALYSIS GUIDANCE LOCAL AIR QUALITY APPRAISAL

<b>PM<sub>10</sub>, SUMMARY OF ROUTES:</b>	<b>0-50m</b>	<b>50-100m</b>	<b>100-150m</b>	<b>150-200m</b>	<b>0-200m</b>
<b>THE AGGREGATED TABLE</b>	<b>(i)</b>	<b>(ii)</b>	<b>(iii)</b>	<b>(iv)</b>	<b>(v=i+ii+iii+iv)</b>
<b>Total properties across all routes (min)</b>	76	33	40	29	178
<b>Total properties across all routes (some)</b>	77	60	50	38	225
<b>Do-minimum PM<sub>10</sub> assessment across all routes</b>	656.8	276.64	332.8	240.76	Total assessment PM <sub>10</sub> (I): 1507
<b>Do-something PM<sub>10</sub> assessment across all routes</b>	656.76	500.21	415.26	315.29	Total assessment PM <sub>10</sub> (II): 1887.52
<b>Net total assessment for PM<sub>10</sub>, all routes (II-I)</b>					380.52
<b>Number of properties with an improvement</b>					<b>85</b>
<b>Number of properties with no change</b>					<b>3</b>
<b>Number of properties with a deterioration</b>					<b>2</b>

**Reference Sources:**

DMRB Screening method version 1.03c (July 2007)

**Quantitative Measures:****Assessment Scores:**

Air quality would improve (negative number) at properties adjacent to the current alignment of the A82, and the A85. However, the overall assessment score is positive due to positive assessment score for the proposed bypass alignment.

380.52

**Qualitative Comments:**

The proposed bypass would give rise to an improvement in air quality at approximately 85 properties and a deterioration in air quality at 2 properties. Approximately three properties will not experience a change in local air quality.

The scheme is not located within an Air Quality Management Area.

<b>PM<sub>10</sub>, A82 west of A85</b>	<b>0-50m</b>	<b>50-100m</b>	<b>100-150m</b>	<b>150-200m</b>	<b>0-200m</b>
<b>Route Name: A82 west of A85</b>	<b>(i)</b>	<b>(ii)</b>	<b>(iii)</b>	<b>(iv)</b>	<b>(v=i+ii+iii+iv)</b>
<b>Properties (amin)</b>	26	7	16	6	55
<b>Properties (asome)</b>	26	7	16	6	55
<b>PM<sub>10</sub> concentration at average point within band for do-minimum (bmin)</b>	At 20m: 8.75	At 70m: 8.42	At 115m: 8.33	At 175m: 8.31	<b>N/A</b>
<b>PM<sub>10</sub> concentration at average point within band for do-something (bsume)</b>	At 20m: 8.55	At 70m: 8.37	At 115m: 8.31	At 175m: 8.3	<b>N/A</b>
<b>Do-minimum PM<sub>10</sub> assessment (c = amin*bmin)</b>	227.5	58.94	133.28	49.86	Total route assess PM <sub>10</sub> (I): 469.58
<b>Do-something PM<sub>10</sub> assessment (c = asome*bsume)</b>	222.3	58.59	132.96	49.8	Total route assess PM <sub>10</sub> (II): 463.65
<b>Net total route assessment for PM<sub>10</sub> (II-I)</b>	55	0	0		-5.93

<b>PM<sub>10</sub>, A85</b>	<b>0-50m</b>	<b>50-100m</b>	<b>100-150m</b>	<b>150-200m</b>	<b>0-200m</b>
<b>Route name: A85</b>	<b>(i)</b>	<b>(ii)</b>	<b>(iii)</b>	<b>(iv)</b>	<b>(v=i+ii+iii+iv)</b>
<b>Properties (amin)</b>	36	8	8	12	64
<b>Properties (asome)</b>	36	8	8	12	64
<b>PM<sub>10</sub> concentration at average point within band for do-minimum (bmin)</b>	At 20m: 8.6	At 70m: 8.38	At 115m: 8.32	At 175m: 8.3	<b>N/A</b>
<b>PM<sub>10</sub> concentration at average point within band for do-something (bsume)</b>	At 20m: 8.59	At 70m: 8.38	At 115m: 8.32	At 175m: 8.3	<b>N/A</b>
<b>Do-minimum PM<sub>10</sub> assessment (c = amin*bmin)</b>	309.6	67.04	66.56	99.6	Total route assess PM <sub>10</sub> (I): 542.8
<b>Do-something PM<sub>10</sub> assessment (c = asome*bsume)</b>	309.24	67.04	66.56	99.6	Total route assess PM <sub>10</sub> (II): 542.44
<b>Net total route assessment for PM<sub>10</sub> (II-I)</b>	64	0	0		-0.36

<b>PM<sub>10</sub>, A82 south of A85</b>	<b>0-50m</b>	<b>50-100m</b>	<b>100-150m</b>	<b>150-200m</b>	<b>0-200m</b>
<b>Route name: A82 south of A85</b>	<b>(i)</b>	<b>(ii)</b>	<b>(iii)</b>	<b>(iv)</b>	<b>(v=i+ii+iii+iv)</b>
<b>Properties (amin)</b>	14	18	16	11	59
<b>Properties (asome)</b>	14	18	16	11	59
<b>PM<sub>10</sub> concentration at average point within band for do-minimum (bmin)</b>	At 20m: 8.55	At 70m: 8.37	At 115m: 8.31	At 175m: 8.3	<b>N/A</b>
<b>PM<sub>10</sub> concentration at average point within band for do-something (bsume)</b>	At 20m: 8.34	At 70m: 8.3	At 115m: 8.29	At 175m: 8.29	<b>N/A</b>
<b>Do-minimum PM<sub>10</sub> assessment (c = amin*bmin)</b>	119.7	150.66	132.96	91.3	Total route assess PM <sub>10</sub> (I): 494.62
<b>Do-something PM<sub>10</sub> assessment (c = asome*bsume)</b>	116.76	149.4	132.64	91.19	Total route assess PM <sub>10</sub> (II): 489.99
<b>Net total route assessment for PM<sub>10</sub> (II-I)</b>	59	0	0		-4.63

<b>PM<sub>10</sub>, A82 Bypass</b>	<b>0-50m</b>	<b>50-100m</b>	<b>100-150m</b>	<b>150-200m</b>	<b>0-200m</b>
<b>Route name: A82 Bypass</b>	<b>(i)</b>	<b>(ii)</b>	<b>(iii)</b>	<b>(iv)</b>	<b>(v=i+ii+iii+iv)</b>
<b>Properties (amin)</b>	0	0	0	0	0
<b>Properties (asome)</b>	1	27	10	9	47
<b>PM<sub>10</sub> concentration at average point within band for do-minimum (bmin)</b>	At 20m: 0	At 70m: 0	At 115m: 0	At 175m: 0	<b>N/A</b>
<b>PM<sub>10</sub> concentration at average point within band for do-something (bsume)</b>	At 20m: 8.46	At 70m: 8.34	At 115m: 8.31	At 175m: 8.3	<b>N/A</b>
<b>Do-minimum PM<sub>10</sub> assessment (c = amin*bmin)</b>	0	0	0	0	Total route assess PM <sub>10</sub> (I): 0
<b>Do-something PM<sub>10</sub> assessment (c = asome*bsume)</b>	8.46	225.18	83.1	74.7	Total route assess PM <sub>10</sub> (II): 391.44
<b>Net total route assessment for PM<sub>10</sub> (II-I)</b>	0	0	47		391.44

<b>NO<sub>2</sub>, SUMMARY OF ROUTES: THE AGGREGATED TABLE</b>	<b>0-50m</b>	<b>50-100m</b>	<b>100-150m</b>	<b>150-200m</b>	<b>0-200m</b>
	<b>(i)</b>	<b>(ii)</b>	<b>(iii)</b>	<b>(iv)</b>	<b>(v=i+ii+iii+iv)</b>
<b>Total properties across all routes (min)</b>	76	33	40	29	178
<b>Total properties across all routes (some)</b>	77	60	50	38	225
<b>Do-minimum NO<sub>2</sub> assessment across all routes</b>	326.96	93.92	101.76	70.76	Total assessment NO <sub>2</sub> (I): 593.4
<b>Do-something NO<sub>2</sub> assessment across all routes</b>	284.5	157.82	123.4	91.91	Total assessment NO <sub>2</sub> (II): 657.63
<b>Net total assessment for NO<sub>2</sub>, all routes (II-I)</b>					64.23
<b>Number of properties with an improvement</b>					<b>85</b>
<b>Number of properties with no change</b>					<b>3</b>
<b>Number of properties with a deterioration</b>					<b>2</b>

**Reference Sources:**

DMRB Screening method version 1.03c (July 2007)

**Quantitative Measures:****Assessment Scores:**

Air quality would improve (negative number) at properties adjacent to the current alignment of the A82, and the A85. However, the overall assessment score is positive due to positive assessment score for the proposed bypass alignment.

64.23

**Qualitative Comments:**

The proposed bypass would give rise to an improvement in air quality at approximately 85 properties and a deterioration in air quality at 2 properties. Approximately three properties will not experience a change in local air quality.

The scheme is not located within an Air Quality Management Area.

<b>NO<sub>2</sub>, A82 west of A85</b>	<b>0-50m</b>	<b>50-100m</b>	<b>100-150m</b>	<b>150-200m</b>	<b>0-200m</b>
<b>Route Name: A82 west of A85</b>	<b>(i)</b>	<b>(ii)</b>	<b>(iii)</b>	<b>(iv)</b>	<b>(v=i+ii+iii+iv)</b>
<b>Properties (amin)</b>	26	7	16	6	55
<b>Properties (asome)</b>	26	7	16	6	55
<b>NO<sub>2</sub> concentration at average point within band for <i>do-minimum</i> (bmin)</b>	At 20m: 4.91	At 70m: 3.12	At 115m: 2.61	At 175m: 2.46	<b>N/A</b>
<b>NO<sub>2</sub> concentration at average point within band for <i>do-something</i> (b<sub>some</sub>)</b>	At 20m: 3.76	At 70m: 2.77	At 115m: 2.5	At 175m: 2.45	<b>N/A</b>
<b><i>Do-minimum</i> NO<sub>2</sub> assessment (c = amin*bmin)</b>	127.66	21.84	41.76	14.76	Total route assess NO <sub>2</sub> (I): 206.02
<b><i>Do-something</i> NO<sub>2</sub> assessment (c = asome*b<sub>some</sub>)</b>	97.76	19.39	40	14.7	Total route assess NO <sub>2</sub> (II): 171.85
<b>Net total route assessment for NO<sub>2</sub> (II-I)</b>	55	0	0		-34.17

<b>NO<sub>2</sub>, A85.</b>	<b>0-50m</b>	<b>50-100m</b>	<b>100-150m</b>	<b>150-200m</b>	<b>0-200m</b>
<b>Route name: A85</b>	<b>(i)</b>	<b>(ii)</b>	<b>(iii)</b>	<b>(iv)</b>	<b>(v=i+ii+iii+iv)</b>
<b>Properties (amin)</b>	36	8	8	12	64
<b>Properties (asome)</b>	36	8	8	12	64
<b>NO<sub>2</sub> concentration at average point within band for <i>do-minimum</i> (bmin)</b>	At 20m: 4.14	At 70m: 2.89	At 115m: 2.54	At 175m: 2.43	<b>N/A</b>
<b>NO<sub>2</sub> concentration at average point within band for <i>do-something</i> (b<sub>some</sub>)</b>	At 20m: 4.08	At 70m: 2.87	At 115m: 2.53	At 175m: 2.43	<b>N/A</b>
<b><i>Do-minimum</i> NO<sub>2</sub> assessment (c = amin*bmin)</b>	149.04	23.12	20.32	29.16	Total route assess NO <sub>2</sub> (I): 221.64
<b><i>Do-something</i> NO<sub>2</sub> assessment (c = asome*b<sub>some</sub>)</b>	146.88	22.96	20.24	29.16	Total route assess NO <sub>2</sub> (II): 219.24
<b>Net total route assessment for NO<sub>2</sub> (II-I)</b>	64	0	0		-2.4

<b>NO<sub>2</sub>, A82 south of A85</b>	<b>0-50m</b>	<b>50-100m</b>	<b>100-150m</b>	<b>150-200m</b>	<b>0-200m</b>
<b>Route name: A82 south of A85</b>	<b>(i)</b>	<b>(ii)</b>	<b>(iii)</b>	<b>(iv)</b>	<b>(v=i+ii+iii+iv)</b>
<b>Properties (amin)</b>	14	18	16	11	59
<b>Properties (asome)</b>	14	18	16	11	59
<b>NO<sub>2</sub> concentration at average point within band for <i>do-minimum</i> (bmin)</b>	At 20m: 3.59	At 70m: 2.72	At 115m: 2.48	At 175m: 2.44	<b>N/A</b>
<b>NO<sub>2</sub> concentration at average point within band for <i>do-something</i> (b<sub>some</sub>)</b>	At 20m: 2.61	At 70m: 2.44	At 115m: 2.41	At 175m: 2.38	<b>N/A</b>
<b><i>Do-minimum</i> NO<sub>2</sub> assessment (c = amin*bmin)</b>	50.26	48.96	39.68	26.84	Total route assess NO <sub>2</sub> (I): 165.74
<b><i>Do-something</i> NO<sub>2</sub> assessment (c = asome*b<sub>some</sub>)</b>	36.54	43.92	38.56	26.18	Total route assess NO <sub>2</sub> (II): 145.2
<b>Net total route assessment for NO<sub>2</sub> (II-I)</b>	59	0	0		-20.54

<b>NO<sub>2</sub>, A82 Bypass</b>	<b>0-50m</b>	<b>50-100m</b>	<b>100-150m</b>	<b>150-200m</b>	<b>0-200m</b>
<b>Route name: A82 Bypass</b>	<b>(i)</b>	<b>(ii)</b>	<b>(iii)</b>	<b>(iv)</b>	<b>(v=i+ii+iii+iv)</b>
<b>Properties (amin)</b>	0	0	0	0	0
<b>Properties (asome)</b>	1	27	10	9	47
<b>NO<sub>2</sub> concentration at average point within band for <i>do-minimum</i> (bmin)</b>	At 20m: 0	At 70m: 0	At 115m: 0	At 175m: 0	<b>N/A</b>
<b>NO<sub>2</sub> concentration at average point within band for <i>do-something</i> (b<sub>some</sub>)</b>	At 20m: 3.32	At 70m: 2.65	At 115m: 2.46	At 175m: 2.43	<b>N/A</b>
<b><i>Do-minimum</i> NO<sub>2</sub> assessment (c = amin*bmin)</b>	0	0	0	0	Total route assess NO <sub>2</sub> (I): 0
<b><i>Do-something</i> NO<sub>2</sub> assessment (c = asome*b<sub>some</sub>)</b>	3.32	71.55	24.6	21.87	Total route assess NO <sub>2</sub> (II): 121.34
<b>Net total route assessment for NO<sub>2</sub> (II-I)</b>	0	0	47		121.34