

Appendix F

Emissions Analysis Results

2010	NOX	NOX	NOX	NOX
TOD	Budget	Model	Difference	Pass/Fail
Gaston	7,647	6,002	1,645	PASS
2010	VOC	VOC		
	Budget	Model	Difference	Pass/Fail
Gaston	5,132	3,824	1,308	PASS

2011	NOX	NOX	NOX	NOX
TOD	Budget	Model	Difference	Pass/Fail
Gaston	7,647	5,305	2,342	PASS
2011	VOC	VOC		
	Budget	Model	Difference	Pass/Fail
Gaston	5,132	3,596	1,536	PASS

2015	NOX	NOX	NOX	NOX
TOD	Budget	Model	Difference	Pass/Fail
Gaston	7,647	3,326	4,321	PASS
2015	VOC	VOC		
	Budget	Model	Difference	Pass/Fail
Gaston	5,132	2,912	2,220	PASS

2025	NOX	NOX	NOX	NOX
TOD	Budget	Model	Difference	Pass/Fail
Gaston	7,647	1,819	5,828	PASS
2025	VOC	VOC		
	Budget	Model	Difference	Pass/Fail
Gaston	5,132	2,216	2,916	PASS

2035	NOX	NOX	NOX	NOX
TOD	Budget	Model	Difference	Pass/Fail
Gaston	7,647	1,848	5,799	PASS
2035	VOC	VOC		
	Budget	Model	Difference	Pass/Fail
Gaston	5,132	2,564	2,568	PASS

2010 Metrolina NOx Emissions

	Model		NOX RATES			NOX kg/day
	VMT	MPH	IM	No IM	Comp	
Gaston AM Peak						
Rural Interstate	25,436	46	1.403	1.475	1.409	36
Rural Principal Arterial	57,510	54	1.104	1.187	1.111	64
Rural Minor Arterial	74,757	43	0.782	0.867	0.790	59
Rural Major Collector	81,694	39	0.667	0.756	0.675	55
Rural Minor Collector	40,871	40	0.702	0.790	0.710	29
Rural Local	71,556	28	0.793	0.880	0.801	57
Urban Interstate	467,251	43	1.126	1.204	1.133	529
Urban Other Freeway/Xprway	23,230	52	0.995	1.080	1.003	23
Urban Principal Arterial	254,148	30	0.614	0.706	0.622	158
Urban Minor Arterial	223,531	31	0.609	0.700	0.617	138
Urban Collector	55,677	29	0.608	0.701	0.616	34
Urban Local	204,996	24	0.659	0.754	0.668	137
Gaston	1,580,656		91%	9%		1,320
Gaston Midday						
Rural Interstate	29,867	61	1.883	1.955	1.889	56
Rural Principal Arterial	58,954	57	1.168	1.252	1.176	69
Rural Minor Arterial	92,506	49	0.825	0.911	0.833	77
Rural Major Collector	103,172	48	0.710	0.799	0.718	74
Rural Minor Collector	47,274	41	0.708	0.795	0.716	34
Rural Local	98,521	28	0.793	0.880	0.801	79
Urban Interstate	567,935	63	1.606	1.685	1.613	916
Urban Other Freeway/Xprway	27,647	55	1.037	1.122	1.045	29
Urban Principal Arterial	353,147	35	0.604	0.695	0.612	216
Urban Minor Arterial	315,101	36	0.603	0.694	0.611	193
Urban Collector	76,646	26	0.623	0.718	0.632	48
Urban Local	331,455	24	0.659	0.754	0.668	221
Gaston	2,102,225		91%	9%		2,013
Gaston PM Peak						
Rural Interstate	26,332	58	1.744	1.816	1.750	46
Rural Principal Arterial	59,572	56	1.144	1.228	1.152	69
Rural Minor Arterial	84,034	42	0.776	0.862	0.784	66
Rural Major Collector	93,540	40	0.670	0.758	0.678	63
Rural Minor Collector	48,684	40	0.702	0.790	0.710	35
Rural Local	87,152	29	0.787	0.874	0.795	69
Urban Interstate	501,310	42	1.116	1.194	1.123	563
Urban Other Freeway/Xprway	23,736	53	1.010	1.094	1.018	24
Urban Principal Arterial	296,590	29	0.619	0.711	0.627	186
Urban Minor Arterial	260,299	31	0.609	0.700	0.617	161
Urban Collector	67,312	21	0.659	0.758	0.668	45
Urban Local	241,963	24	0.659	0.754	0.668	162
Gaston	1,790,525		91%	9%		1,488
Gaston Night						
Rural Interstate	18,045	62	1.942	2.014	1.948	35
Rural Principal Arterial	35,719	58	1.192	1.275	1.199	43
Rural Minor Arterial	52,622	51	0.845	0.931	0.853	45
Rural Major Collector	62,123	52	0.739	0.828	0.747	46
Rural Minor Collector	25,387	41	0.708	0.795	0.716	18
Rural Local	53,520	28	0.793	0.880	0.801	43
Urban Interstate	345,349	63	1.606	1.685	1.613	557
Urban Other Freeway/Xprway	17,479	56	1.059	1.144	1.067	19
Urban Principal Arterial	200,624	40	0.615	0.705	0.623	125
Urban Minor Arterial	177,355	40	0.611	0.702	0.619	110
Urban Collector	39,612	30	0.604	0.696	0.612	24
Urban Local	172,749	24	0.659	0.754	0.668	115
Gaston	1,200,585		91%	9%		1,180
Gaston 24 Hour						
Rural Interstate	99,681					174
Rural Principal Arterial	211,755					245
Rural Minor Arterial	303,920					247
Rural Major Collector	340,529					239
Rural Minor Collector	162,216					116
Rural Local	310,750					248
Urban Interstate	1,881,846					2,566
Urban Other Freeway/Xprway	92,092					95
Urban Principal Arterial	1,104,508					685
Urban Minor Arterial	976,286					601
Urban Collector	239,248					152
Urban Local	951,163					635
Gaston	6,673,992		model kg / day	NOX		6,002
total model emissions						6,002
emissions budget						7,647
budget minus model						1,645

2010 Metrolina VOC Emissions

	Model		VOC RATES			VOC kg/day
	VMT	MPH	IM	No IM	Comp	
Gaston AM Peak						
Rural Interstate	25,436	46	0.497	0.553	0.502	13
Rural Principal Arterial	57,510	54	0.508	0.567	0.513	30
Rural Minor Arterial	74,757	43	0.543	0.611	0.549	41
Rural Major Collector	81,694	39	0.562	0.635	0.569	46
Rural Minor Collector	40,871	40	0.556	0.627	0.562	23
Rural Local	71,556	28	0.609	0.688	0.616	44
Urban Interstate	467,251	43	0.523	0.585	0.529	247
Urban Other Freeway/Xprway	23,230	52	0.516	0.578	0.522	12
Urban Principal Arterial	254,148	30	0.608	0.691	0.615	156
Urban Minor Arterial	223,531	31	0.601	0.683	0.608	136
Urban Collector	55,677	29	0.614	0.697	0.621	35
Urban Local	204,996	24	0.651	0.740	0.659	135
Gaston	1,580,656		91%	9%		918
Gaston Midday						
Rural Interstate	29,867	61	0.470	0.518	0.474	14
Rural Principal Arterial	58,954	57	0.503	0.561	0.508	30
Rural Minor Arterial	92,506	49	0.528	0.592	0.534	49
Rural Major Collector	103,172	48	0.538	0.605	0.544	56
Rural Minor Collector	47,274	41	0.553	0.624	0.559	26
Rural Local	98,521	28	0.609	0.688	0.616	61
Urban Interstate	567,935	63	0.486	0.537	0.491	279
Urban Other Freeway/Xprway	27,647	55	0.510	0.570	0.515	14
Urban Principal Arterial	353,147	35	0.580	0.657	0.587	207
Urban Minor Arterial	315,101	36	0.576	0.653	0.583	184
Urban Collector	76,646	26	0.635	0.722	0.643	49
Urban Local	331,455	24	0.651	0.740	0.659	218
Gaston	2,102,225		91%	9%		1,188
Gaston PM Peak						
Rural Interstate	26,332	58	0.473	0.522	0.477	13
Rural Principal Arterial	59,572	56	0.505	0.563	0.510	30
Rural Minor Arterial	84,034	42	0.546	0.614	0.552	46
Rural Major Collector	93,540	40	0.559	0.631	0.565	53
Rural Minor Collector	48,684	40	0.556	0.627	0.562	27
Rural Local	87,152	29	0.602	0.680	0.609	53
Urban Interstate	501,310	42	0.526	0.588	0.532	266
Urban Other Freeway/Xprway	23,736	53	0.514	0.575	0.519	12
Urban Principal Arterial	296,590	29	0.614	0.698	0.622	184
Urban Minor Arterial	260,299	31	0.601	0.683	0.608	158
Urban Collector	67,312	21	0.687	0.783	0.696	47
Urban Local	241,963	24	0.651	0.740	0.659	159
Gaston	1,790,525		91%	9%		1,051
Gaston Night						
Rural Interstate	18,045	62	0.469	0.517	0.473	9
Rural Principal Arterial	35,719	58	0.502	0.559	0.507	18
Rural Minor Arterial	52,622	51	0.523	0.586	0.529	28
Rural Major Collector	62,123	52	0.529	0.593	0.535	33
Rural Minor Collector	25,387	41	0.553	0.624	0.559	14
Rural Local	53,520	28	0.609	0.688	0.616	33
Urban Interstate	345,349	63	0.486	0.537	0.491	169
Urban Other Freeway/Xprway	17,479	56	0.509	0.568	0.514	9
Urban Principal Arterial	200,624	40	0.564	0.638	0.571	114
Urban Minor Arterial	177,355	40	0.564	0.637	0.571	101
Urban Collector	39,612	30	0.608	0.690	0.615	24
Urban Local	172,749	24	0.651	0.740	0.659	114
Gaston	1,200,585		91%	9%		667
Gaston 24 Hour						
Rural Interstate	99,681					48
Rural Principal Arterial	211,755					108
Rural Minor Arterial	303,920					165
Rural Major Collector	340,529					189
Rural Minor Collector	162,216					91
Rural Local	310,750					191
Urban Interstate	1,881,846					962
Urban Other Freeway/Xprway	92,092					48
Urban Principal Arterial	1,104,508					663
Urban Minor Arterial	976,286					579
Urban Collector	239,248					155
Urban Local	951,163					627
Gaston	6,673,992		model kg / day	VOC		3,824
total model emissions						3,824
emissions budget						5,132
budget minus model						1,308

2011 Metrolina NOx Emissions

	Model		NOX RATES			NOX kg/day
	VMT	MPH	IM	No IM	Comp	
Gaston AM Peak						
Rural Interstate	28,350	60	1.520	1.596	1.527	43
Rural Principal Arterial	57,476	52	0.910	0.997	0.918	53
Rural Minor Arterial	77,458	42	0.673	0.763	0.681	53
Rural Major Collector	82,273	41	0.591	0.684	0.599	49
Rural Minor Collector	41,274	40	0.614	0.705	0.622	26
Rural Local	72,186	28	0.687	0.778	0.695	50
Urban Interstate	483,985	44	0.957	1.039	0.964	467
Urban Other Freeway/Xprway	23,066	53	0.861	0.950	0.869	20
Urban Principal Arterial	256,888	30	0.542	0.639	0.551	141
Urban Minor Arterial	224,810	31	0.538	0.633	0.547	123
Urban Collector	55,192	28	0.542	0.639	0.551	30
Urban Local	208,939	24	0.581	0.681	0.590	123
Gaston	1,611,898		91%	9%		1,179
Gaston Midday						
Rural Interstate	31,654	62	1.621	1.697	1.628	52
Rural Principal Arterial	60,186	57	0.991	1.078	0.999	60
Rural Minor Arterial	97,141	49	0.715	0.805	0.723	70
Rural Major Collector	104,577	49	0.627	0.720	0.635	66
Rural Minor Collector	48,217	41	0.618	0.710	0.626	30
Rural Local	101,571	28	0.687	0.778	0.695	71
Urban Interstate	580,806	63	1.350	1.433	1.357	788
Urban Other Freeway/Xprway	27,507	55	0.884	0.973	0.892	25
Urban Principal Arterial	358,131	35	0.533	0.628	0.542	194
Urban Minor Arterial	320,408	35	0.531	0.625	0.539	173
Urban Collector	77,789	26	0.551	0.650	0.560	44
Urban Local	337,505	24	0.581	0.681	0.590	199
Gaston	2,145,491		91%	9%		1,772
Gaston PM Peak						
Rural Interstate	29,382	57	1.424	1.499	1.431	42
Rural Principal Arterial	61,188	55	0.950	1.037	0.958	59
Rural Minor Arterial	86,679	41	0.668	0.758	0.676	59
Rural Major Collector	94,675	41	0.591	0.684	0.599	57
Rural Minor Collector	49,806	40	0.614	0.705	0.622	31
Rural Local	89,432	29	0.682	0.773	0.690	62
Urban Interstate	517,844	42	0.942	1.024	0.949	492
Urban Other Freeway/Xprway	24,104	53	0.861	0.950	0.869	21
Urban Principal Arterial	299,632	28	0.550	0.648	0.559	167
Urban Minor Arterial	262,686	31	0.538	0.633	0.547	144
Urban Collector	66,988	21	0.583	0.687	0.592	40
Urban Local	246,523	23	0.588	0.688	0.597	147
Gaston	1,828,939		91%	9%		1,319
Gaston Night						
Rural Interstate	18,797	61	1.571	1.647	1.578	30
Rural Principal Arterial	36,214	58	1.010	1.098	1.018	37
Rural Minor Arterial	55,683	51	0.732	0.822	0.740	41
Rural Major Collector	63,064	52	0.646	0.740	0.654	41
Rural Minor Collector	25,952	41	0.618	0.710	0.626	16
Rural Local	55,143	28	0.687	0.778	0.695	38
Urban Interstate	353,257	63	1.350	1.433	1.357	480
Urban Other Freeway/Xprway	17,014	56	0.902	0.991	0.910	15
Urban Principal Arterial	204,051	40	0.543	0.637	0.551	113
Urban Minor Arterial	181,041	40	0.540	0.634	0.548	99
Urban Collector	40,241	33	0.528	0.624	0.537	22
Urban Local	176,141	24	0.581	0.681	0.590	104
Gaston	1,226,600		91%	9%		1,036
Gaston 24 Hour						
Rural Interstate	108,183					167
Rural Principal Arterial	215,065					208
Rural Minor Arterial	316,962					223
Rural Major Collector	344,589					214
Rural Minor Collector	165,249					103
Rural Local	318,332					221
Urban Interstate	1,935,892					2,226
Urban Other Freeway/Xprway	91,691					81
Urban Principal Arterial	1,118,701					615
Urban Minor Arterial	988,946					539
Urban Collector	240,209					135
Urban Local	969,108					573
Gaston	6,812,928		model kg / day	NOX		5,305
total model emissions						5,305
emissions budget						7,647
budget minus model						2,342

2011 Metrolina VOC Emissions

	Model		VOC RATES			VOC kg/day
	VMT	MPH	IM	No IM	Comp	
Gaston AM Peak						
Rural Interstate	28,350	60	0.436	0.487	0.441	12
Rural Principal Arterial	57,476	52	0.473	0.536	0.479	28
Rural Minor Arterial	77,458	42	0.502	0.574	0.508	39
Rural Major Collector	82,273	41	0.511	0.586	0.518	43
Rural Minor Collector	41,274	40	0.511	0.586	0.518	21
Rural Local	72,186	28	0.559	0.641	0.566	41
Urban Interstate	483,985	44	0.479	0.543	0.485	235
Urban Other Freeway/Xprway	23,066	53	0.475	0.538	0.481	11
Urban Principal Arterial	256,888	30	0.558	0.644	0.566	145
Urban Minor Arterial	224,810	31	0.552	0.636	0.560	126
Urban Collector	55,192	28	0.569	0.657	0.577	32
Urban Local	208,939	24	0.596	0.689	0.604	126
Gaston	1,611,898		91%	9%		859
Gaston Midday						
Rural Interstate	31,654	62	0.435	0.485	0.440	14
Rural Principal Arterial	60,186	57	0.465	0.526	0.470	28
Rural Minor Arterial	97,141	49	0.486	0.553	0.492	48
Rural Major Collector	104,577	49	0.493	0.563	0.499	52
Rural Minor Collector	48,217	41	0.509	0.582	0.516	25
Rural Local	101,571	28	0.559	0.641	0.566	58
Urban Interstate	580,806	63	0.450	0.503	0.455	264
Urban Other Freeway/Xprway	27,507	55	0.471	0.534	0.477	13
Urban Principal Arterial	358,131	35	0.533	0.613	0.540	193
Urban Minor Arterial	320,408	35	0.533	0.612	0.540	173
Urban Collector	77,789	26	0.582	0.672	0.590	46
Urban Local	337,505	24	0.596	0.689	0.604	204
Gaston	2,145,491		91%	9%		1,118
Gaston PM Peak						
Rural Interstate	29,382	57	0.439	0.491	0.444	13
Rural Principal Arterial	61,188	55	0.467	0.529	0.473	29
Rural Minor Arterial	86,679	41	0.505	0.577	0.511	44
Rural Major Collector	94,675	41	0.511	0.586	0.518	49
Rural Minor Collector	49,806	40	0.511	0.586	0.518	26
Rural Local	89,432	29	0.553	0.633	0.560	50
Urban Interstate	517,844	42	0.484	0.549	0.490	254
Urban Other Freeway/Xprway	24,104	53	0.475	0.538	0.481	12
Urban Principal Arterial	299,632	28	0.569	0.657	0.577	173
Urban Minor Arterial	262,686	31	0.552	0.636	0.560	147
Urban Collector	66,988	21	0.629	0.728	0.638	43
Urban Local	246,523	23	0.606	0.700	0.614	151
Gaston	1,828,939		91%	9%		991
Gaston Night						
Rural Interstate	18,797	61	0.436	0.486	0.441	8
Rural Principal Arterial	36,214	58	0.464	0.524	0.469	17
Rural Minor Arterial	55,683	51	0.482	0.548	0.488	27
Rural Major Collector	63,064	52	0.487	0.555	0.493	31
Rural Minor Collector	25,952	41	0.509	0.582	0.516	13
Rural Local	55,143	28	0.559	0.641	0.566	31
Urban Interstate	353,257	63	0.450	0.503	0.455	161
Urban Other Freeway/Xprway	17,014	56	0.470	0.532	0.476	8
Urban Principal Arterial	204,051	40	0.518	0.595	0.525	107
Urban Minor Arterial	181,041	40	0.518	0.595	0.525	95
Urban Collector	40,241	33	0.541	0.624	0.548	22
Urban Local	176,141	24	0.596	0.689	0.604	106
Gaston	1,226,600		91%	9%		628
Gaston 24 Hour						
Rural Interstate	108,183					48
Rural Principal Arterial	215,065					102
Rural Minor Arterial	316,962					159
Rural Major Collector	344,589					175
Rural Minor Collector	165,249					85
Rural Local	318,332					180
Urban Interstate	1,935,892					913
Urban Other Freeway/Xprway	91,691					44
Urban Principal Arterial	1,118,701					619
Urban Minor Arterial	988,946					541
Urban Collector	240,209					143
Urban Local	969,108					588
Gaston	6,812,928		model kg / day	VOC		3,596
total model emissions						3,596
emissions budget						5,132
budget minus model						1,536

2025 Metrolina NOx Emissions

	Model		NOX RATES			NOX kg/day
	VMT	MPH	IM	No IM	Comp	
Gaston AM Peak						
Rural Interstate	34,762	54	0.258	0.353	0.267	9
Rural Principal Arterial	76,636	47	0.200	0.309	0.210	16
Rural Minor Arterial	95,107	33	0.174	0.286	0.184	18
Rural Major Collector	115,480	33	0.166	0.281	0.176	20
Rural Minor Collector	60,102	36	0.168	0.281	0.178	11
Rural Local	111,182	28	0.181	0.293	0.191	21
Urban Interstate	649,940	39	0.202	0.303	0.211	137
Urban Other Freeway/Xprway	30,473	49	0.198	0.309	0.208	6
Urban Principal Arterial	328,965	28	0.167	0.288	0.178	59
Urban Minor Arterial	273,658	27	0.168	0.290	0.179	49
Urban Collector	76,800	27	0.167	0.289	0.178	14
Urban Local	267,242	23	0.176	0.301	0.187	50
Gaston	2,120,346		91%	9%		410
Gaston Midday						
Rural Interstate	42,944	61	0.295	0.392	0.304	13
Rural Principal Arterial	83,039	54	0.215	0.326	0.225	19
Rural Minor Arterial	118,781	44	0.181	0.293	0.191	23
Rural Major Collector	154,802	42	0.170	0.286	0.180	28
Rural Minor Collector	68,948	39	0.170	0.284	0.180	12
Rural Local	147,023	27	0.182	0.296	0.192	28
Urban Interstate	854,104	61	0.261	0.367	0.271	231
Urban Other Freeway/Xprway	37,965	52	0.204	0.316	0.214	8
Urban Principal Arterial	427,946	35	0.160	0.278	0.171	73
Urban Minor Arterial	377,171	34	0.161	0.278	0.172	65
Urban Collector	102,719	27	0.167	0.289	0.178	18
Urban Local	421,581	24	0.174	0.298	0.185	78
Gaston	2,837,022		91%	9%		596
Gaston PM Peak						
Rural Interstate	35,626	44	0.228	0.321	0.236	8
Rural Principal Arterial	82,896	52	0.211	0.321	0.221	18
Rural Minor Arterial	106,202	34	0.173	0.285	0.183	19
Rural Major Collector	132,774	33	0.166	0.281	0.176	23
Rural Minor Collector	71,160	36	0.168	0.281	0.178	13
Rural Local	136,877	28	0.181	0.293	0.191	26
Urban Interstate	718,944	40	0.202	0.304	0.211	152
Urban Other Freeway/Xprway	32,707	48	0.196	0.307	0.206	7
Urban Principal Arterial	377,173	28	0.167	0.288	0.178	67
Urban Minor Arterial	308,910	28	0.166	0.287	0.177	55
Urban Collector	90,271	22	0.177	0.305	0.189	17
Urban Local	312,458	23	0.176	0.301	0.187	59
Gaston	2,405,997		91%	9%		464
Gaston Night						
Rural Interstate	25,087	61	0.295	0.392	0.304	8
Rural Principal Arterial	48,254	56	0.221	0.332	0.231	11
Rural Minor Arterial	67,627	48	0.186	0.299	0.196	13
Rural Major Collector	94,089	50	0.179	0.296	0.190	18
Rural Minor Collector	36,738	40	0.171	0.284	0.181	7
Rural Local	78,432	27	0.182	0.296	0.192	15
Urban Interstate	502,353	63	0.273	0.379	0.283	142
Urban Other Freeway/Xprway	23,129	55	0.210	0.323	0.220	5
Urban Principal Arterial	238,352	40	0.163	0.281	0.174	41
Urban Minor Arterial	217,665	39	0.162	0.280	0.173	38
Urban Collector	55,579	35	0.159	0.276	0.170	9
Urban Local	223,104	24	0.174	0.298	0.185	41
Gaston	1,610,408		91%	9%		348
Gaston 24 Hour						
Rural Interstate	138,419					38
Rural Principal Arterial	290,825					64
Rural Minor Arterial	387,716					73
Rural Major Collector	497,144					90
Rural Minor Collector	236,948					42
Rural Local	473,514					91
Urban Interstate	2,725,341					662
Urban Other Freeway/Xprway	124,273					26
Urban Principal Arterial	1,372,436					240
Urban Minor Arterial	1,177,404					206
Urban Collector	325,369					58
Urban Local	1,224,384					228
Gaston	8,973,773		model kg / day	NOX		1,819
total model emissions						1,819
emissions budget						7,647
budget minus model						5,828

2025 Metrolina VOC Emissions

	Model		VOC RATES			VOC kg/day
	VMT	MPH	IM	No IM	Comp	
Gaston AM Peak						
Rural Interstate	34,762	54	0.208	0.276	0.214	7
Rural Principal Arterial	76,636	47	0.219	0.302	0.226	17
Rural Minor Arterial	95,107	33	0.241	0.336	0.250	24
Rural Major Collector	115,480	33	0.241	0.339	0.250	29
Rural Minor Collector	60,102	36	0.234	0.328	0.242	15
Rural Local	111,182	28	0.256	0.355	0.265	29
Urban Interstate	649,940	39	0.228	0.311	0.235	153
Urban Other Freeway/Xprway	30,473	49	0.217	0.301	0.225	7
Urban Principal Arterial	328,965	28	0.255	0.362	0.265	87
Urban Minor Arterial	273,658	27	0.259	0.366	0.269	74
Urban Collector	76,800	27	0.258	0.365	0.268	21
Urban Local	267,242	23	0.275	0.388	0.285	76
Gaston	2,120,346		91%	9%		539
Gaston Midday						
Rural Interstate	42,944	61	0.207	0.272	0.213	9
Rural Principal Arterial	83,039	54	0.213	0.292	0.220	18
Rural Minor Arterial	118,781	44	0.223	0.310	0.231	27
Rural Major Collector	154,802	42	0.226	0.318	0.234	36
Rural Minor Collector	68,948	39	0.229	0.322	0.237	16
Rural Local	147,023	27	0.260	0.360	0.269	40
Urban Interstate	854,104	61	0.210	0.281	0.216	185
Urban Other Freeway/Xprway	37,965	52	0.215	0.297	0.222	8
Urban Principal Arterial	427,946	35	0.236	0.335	0.245	105
Urban Minor Arterial	377,171	34	0.239	0.338	0.248	94
Urban Collector	102,719	27	0.258	0.365	0.268	27
Urban Local	421,581	24	0.270	0.381	0.280	118
Gaston	2,837,022		91%	9%		684
Gaston PM Peak						
Rural Interstate	35,626	44	0.219	0.291	0.225	8
Rural Principal Arterial	82,896	52	0.215	0.295	0.222	18
Rural Minor Arterial	106,202	34	0.238	0.332	0.246	26
Rural Major Collector	132,774	33	0.241	0.339	0.250	33
Rural Minor Collector	71,160	36	0.234	0.328	0.242	17
Rural Local	136,877	28	0.256	0.355	0.265	36
Urban Interstate	718,944	40	0.227	0.308	0.234	168
Urban Other Freeway/Xprway	32,707	48	0.218	0.302	0.226	7
Urban Principal Arterial	377,173	28	0.255	0.362	0.265	100
Urban Minor Arterial	308,910	28	0.255	0.361	0.265	82
Urban Collector	90,271	22	0.280	0.397	0.291	26
Urban Local	312,458	23	0.275	0.388	0.285	89
Gaston	2,405,997		91%	9%		612
Gaston Night						
Rural Interstate	25,087	61	0.207	0.272	0.213	5
Rural Principal Arterial	48,254	56	0.213	0.290	0.220	11
Rural Minor Arterial	67,627	48	0.219	0.304	0.227	15
Rural Major Collector	94,089	50	0.218	0.305	0.226	21
Rural Minor Collector	36,738	40	0.228	0.320	0.236	9
Rural Local	78,432	27	0.260	0.360	0.269	21
Urban Interstate	502,353	63	0.211	0.280	0.217	109
Urban Other Freeway/Xprway	23,129	55	0.213	0.293	0.220	5
Urban Principal Arterial	238,352	40	0.229	0.324	0.238	57
Urban Minor Arterial	217,665	39	0.230	0.326	0.239	52
Urban Collector	55,579	35	0.236	0.334	0.245	14
Urban Local	223,104	24	0.270	0.381	0.280	62
Gaston	1,610,408		91%	9%		381
Gaston 24 Hour						
Rural Interstate	138,419					30
Rural Principal Arterial	290,825					65
Rural Minor Arterial	387,716					93
Rural Major Collector	497,144					120
Rural Minor Collector	236,948					57
Rural Local	473,514					126
Urban Interstate	2,725,341					615
Urban Other Freeway/Xprway	124,273					28
Urban Principal Arterial	1,372,436					348
Urban Minor Arterial	1,177,404					301
Urban Collector	325,369					88
Urban Local	1,224,384					346
Gaston	8,973,773		model kg / day	VOC		2,216
total model emissions						2,216
emissions budget						5,132
budget minus model						2,916

2035 Metrolina NOx Emissions

2035 - GP 7/6/2010

	Model		NOX RATES			NOX kg/day
	VMT	MPH	IM	No IM	Comp	
Gaston AM Peak						
Rural Interstate	37,838	48	0.206	0.301	0.215	8
Rural Principal Arterial	84,558	44	0.174	0.283	0.184	16
Rural Minor Arterial	109,513	30	0.159	0.272	0.169	19
Rural Major Collector	133,189	28	0.155	0.274	0.166	22
Rural Minor Collector	78,000	34	0.152	0.266	0.162	13
Rural Local	144,276	28	0.162	0.275	0.172	25
Urban Interstate	706,613	37	0.176	0.278	0.185	131
Urban Other Freeway/Xprway	32,760	47	0.174	0.285	0.184	6
Urban Principal Arterial	404,926	26	0.155	0.279	0.166	67
Urban Minor Arterial	305,403	26	0.155	0.278	0.166	51
Urban Collector	90,097	27	0.152	0.275	0.163	15
Urban Local	305,651	23	0.160	0.286	0.171	52
Gaston	2,432,824		91%	9%		424
Gaston Midday						
Rural Interstate	50,875	57	0.235	0.332	0.243	12
Rural Principal Arterial	98,443	52	0.187	0.298	0.196	19
Rural Minor Arterial	137,471	42	0.160	0.273	0.169	23
Rural Major Collector	175,874	39	0.152	0.267	0.161	28
Rural Minor Collector	84,988	38	0.153	0.267	0.162	14
Rural Local	178,374	28	0.162	0.275	0.171	31
Urban Interstate	980,189	56	0.210	0.315	0.218	214
Urban Other Freeway/Xprway	42,580	51	0.180	0.293	0.189	8
Urban Principal Arterial	512,416	34	0.147	0.265	0.156	80
Urban Minor Arterial	406,944	33	0.147	0.265	0.156	64
Urban Collector	113,239	26	0.154	0.277	0.164	19
Urban Local	474,196	24	0.158	0.283	0.168	80
Gaston	3,255,588		92%	8%		592
Gaston PM Peak						
Rural Interstate	38,968	31	0.188	0.282	0.196	8
Rural Principal Arterial	91,155	50	0.183	0.293	0.192	17
Rural Minor Arterial	122,194	31	0.158	0.271	0.167	20
Rural Major Collector	152,362	30	0.153	0.270	0.162	25
Rural Minor Collector	92,053	33	0.152	0.267	0.161	15
Rural Local	174,830	28	0.162	0.275	0.171	30
Urban Interstate	782,963	34	0.174	0.276	0.182	143
Urban Other Freeway/Xprway	34,904	47	0.174	0.285	0.183	6
Urban Principal Arterial	460,495	26	0.155	0.279	0.165	76
Urban Minor Arterial	343,696	26	0.155	0.278	0.165	57
Urban Collector	102,902	21	0.164	0.294	0.174	18
Urban Local	357,475	23	0.160	0.286	0.170	61
Gaston	2,753,997		92%	8%		475
Gaston Night						
Rural Interstate	30,153	61	0.254	0.352	0.262	8
Rural Principal Arterial	56,322	56	0.196	0.308	0.205	12
Rural Minor Arterial	77,133	48	0.167	0.281	0.176	14
Rural Major Collector	106,955	48	0.160	0.277	0.169	18
Rural Minor Collector	44,506	40	0.154	0.268	0.163	7
Rural Local	92,328	27	0.163	0.278	0.172	16
Urban Interstate	588,685	63	0.238	0.345	0.247	145
Urban Other Freeway/Xprway	26,221	55	0.187	0.301	0.196	5
Urban Principal Arterial	277,989	40	0.149	0.267	0.158	44
Urban Minor Arterial	235,775	39	0.148	0.266	0.157	37
Urban Collector	61,518	34	0.145	0.264	0.155	10
Urban Local	251,167	24	0.158	0.283	0.168	42
Gaston	1,848,752		92%	8%		357
Gaston 24 Hour						
Rural Interstate	157,834					36
Rural Principal Arterial	330,478					64
Rural Minor Arterial	446,310					76
Rural Major Collector	568,380					93
Rural Minor Collector	299,547					49
Rural Local	589,809					101
Urban Interstate	3,058,450					633
Urban Other Freeway/Xprway	136,465					26
Urban Principal Arterial	1,655,826					267
Urban Minor Arterial	1,291,818					208
Urban Collector	367,756					61
Urban Local	1,388,489					235
Gaston	10,291,162		model kg / day	NOX		1,848
			off model kg / day			
			total emissions			1,848
			emissions budget			7,647
			budget - estimate			5,799

2035 Metrolina VOC Emissions

2035 - GP 7/6/2010

	Model		VOC RATES			VOC kg/day
	VMT	MPH	IM	No IM	Comp	
Gaston AM Peak						
Rural Interstate	37,838	48	0.212	0.285	0.219	8
Rural Principal Arterial	84,558	44	0.222	0.308	0.230	19
Rural Minor Arterial	109,513	30	0.248	0.349	0.257	28
Rural Major Collector	133,189	28	0.255	0.361	0.265	35
Rural Minor Collector	78,000	34	0.237	0.335	0.246	19
Rural Local	144,276	28	0.255	0.356	0.264	38
Urban Interstate	706,613	37	0.231	0.316	0.239	169
Urban Other Freeway/Xprway	32,760	47	0.219	0.305	0.227	7
Urban Principal Arterial	404,926	26	0.262	0.373	0.272	110
Urban Minor Arterial	305,403	26	0.262	0.372	0.272	83
Urban Collector	90,097	27	0.258	0.367	0.268	24
Urban Local	305,651	23	0.274	0.389	0.284	87
Gaston	2,432,824		91%	9%		629
Gaston Midday						
Rural Interstate	50,875	57	0.206	0.274	0.211	11
Rural Principal Arterial	98,443	52	0.214	0.296	0.221	22
Rural Minor Arterial	137,471	42	0.225	0.315	0.232	32
Rural Major Collector	175,874	39	0.229	0.325	0.237	42
Rural Minor Collector	84,988	38	0.230	0.325	0.238	20
Rural Local	178,374	28	0.255	0.356	0.263	47
Urban Interstate	980,189	56	0.209	0.284	0.215	211
Urban Other Freeway/Xprway	42,580	51	0.215	0.299	0.222	9
Urban Principal Arterial	512,416	34	0.238	0.340	0.246	126
Urban Minor Arterial	406,944	33	0.240	0.343	0.248	101
Urban Collector	113,239	26	0.261	0.372	0.270	31
Urban Local	474,196	24	0.270	0.382	0.279	132
Gaston	3,255,588		92%	8%		783
Gaston PM Peak						
Rural Interstate	38,968	31	0.245	0.328	0.252	10
Rural Principal Arterial	91,155	50	0.215	0.298	0.222	20
Rural Minor Arterial	122,194	31	0.245	0.345	0.253	31
Rural Major Collector	152,362	30	0.248	0.352	0.256	39
Rural Minor Collector	92,053	33	0.240	0.339	0.248	23
Rural Local	174,830	28	0.255	0.356	0.263	46
Urban Interstate	782,963	34	0.237	0.325	0.244	191
Urban Other Freeway/Xprway	34,904	47	0.219	0.305	0.226	8
Urban Principal Arterial	460,495	26	0.262	0.373	0.271	125
Urban Minor Arterial	343,696	26	0.262	0.372	0.271	93
Urban Collector	102,902	21	0.285	0.406	0.295	30
Urban Local	357,475	23	0.274	0.389	0.283	101
Gaston	2,753,997		92%	8%		717
Gaston Night						
Rural Interstate	30,153	61	0.206	0.272	0.211	6
Rural Principal Arterial	56,322	56	0.212	0.292	0.218	12
Rural Minor Arterial	77,133	48	0.218	0.305	0.225	17
Rural Major Collector	106,955	48	0.219	0.309	0.226	24
Rural Minor Collector	44,506	40	0.227	0.321	0.235	10
Rural Local	92,328	27	0.258	0.360	0.266	25
Urban Interstate	588,685	63	0.210	0.281	0.216	127
Urban Other Freeway/Xprway	26,221	55	0.213	0.294	0.219	6
Urban Principal Arterial	277,989	40	0.229	0.326	0.237	66
Urban Minor Arterial	235,775	39	0.230	0.327	0.238	56
Urban Collector	61,518	34	0.238	0.339	0.246	15
Urban Local	251,167	24	0.270	0.382	0.279	70
Gaston	1,848,752		92%	8%		435
Gaston 24 Hour						
Rural Interstate	157,834					35
Rural Principal Arterial	330,478					74
Rural Minor Arterial	446,310					108
Rural Major Collector	568,380					140
Rural Minor Collector	299,547					73
Rural Local	589,809					156
Urban Interstate	3,058,450					697
Urban Other Freeway/Xprway	136,465					31
Urban Principal Arterial	1,655,826					427
Urban Minor Arterial	1,291,818					333
Urban Collector	367,756					100
Urban Local	1,388,489					390
Gaston	10,291,162		model kg / day	VOC		2,564
			off model kg / day			
			total emissions			2,564
			emissions budget			5,132
			budget minus model			2,568