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Appendix I. Emissions Analysis Results

USING MOBILE6.2

Wake County

NOx Comparison Table (kg/day)					
Analysis Year	Model	Off-Model	Comparison Amount	Budget Amount	
2002	52,029	143			
2007	35,545	176	35,370	37,539	OK
2009	29,644	188	29,456	37,539	OK
2010	26,490	195	26,295	27,125	OK
2012	21,070	207	20,863	22,144	OK
2015	15,295	224	15,071	16,239	OK
2020	10,223	253	9,970	16,239	OK
2030	8,687	213	8,474	16,239	OK

Year	NOx Budget (tons/day)	NOx Budget (kg/day)
2004	51.08	46,339
2007	41.38	37,539
2010	29.90	27,125
2012	24.41	22,144
2015	17.90	16,239

Volatile Organic Compound Comparison Table (kg/day)					
Analysis Year	Model	Off-Model	Comparison Amount	Budget Amount	
2002	25,035	45			
2007	17,910	76	17,834	18,180	OK
2009	15,888	89	15,799	18,180	OK
2010	14,989	95	14,894	15,749	OK
2012	13,297	110	13,187	14,188	OK
2015	11,640	132	11,509	13,018	OK
2020	10,235	168	10,067	13,018	OK
2030	10,437	154	10,283	13,018	OK

Year	VOC Budget (tons/day)	VOC Budget (kg/day)
2004	22.19	20,130
2007	20.04	18,180
2010	17.36	15,749
2012	15.64	14,188
2015	14.35	13,018

CO Comparison Table (kg/day)					
Analysis Year	Model	Off-Model	Comparison Amount	Budget Amount	
2005*	296,929	669	296,260	347,570	OK
2010	298,082	1,348	296,734	347,570	OK
2015	288,240	1,594	286,647	348,604	OK
2020	285,684	1,839	283,845	348,604	OK
2030	346,973	3,142	343,831	348,604	OK

	Year	CO(tons/day) Budget Amount	CO(kg/day) Budget Amount
existing SIP budget	2005	383.13	347,570
proposed SIP budget	2015	380.13	348,604

VMT normalization has been applied to 2005 for CO only.

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Durham County

NOx Comparison Table (kg/day)					
Analysis Year	Model	Off-Model	Comparison Amount	Budget Amount	
2002	19,494	74			
2007	13,402	73	13,329	13,871	OK
2009	11,018	73	10,945	13,871	OK
2010	9,730	73	9,657	10,297	OK
2012	7,417	66	7,351	8,246	OK
2015	5,279	55	5,224	5,888	OK
2020	3,355	37	3,318	5,888	OK
2030	2,702	37	2,665	5,888	OK

Year	NOx Budget (tons/day)	NOx Budget (kg/day)
2004	19.61	17,790
2007	15.29	13,871
2010	11.35	10,297
2012	9.09	8,246
2015	6.49	5,888

Volatile Organic Compound Comparison Table (kg/day)					
Analysis Year	Model	Off-Model	Comparison Amount	Budget Amount	
2002	9,120	25			
2007	6,474	28	6,447	7,530	OK
2009	5,680	29	5,652	7,530	OK
2010	5,314	29	5,285	6,142	OK
2012	4,589	29	4,560	5,389	OK
2015	3,875	29	3,846	4,772	OK
2020	3,218	29	3,189	4,772	OK
2030	3,107	37	3,070	4,772	OK

Year	VOC Budget (tons/day)	VOC Budget (kg/day)
2004	9.53	8,645
2007	8.30	7,530
2010	6.77	6,142
2012	5.94	5,389
2015	5.26	4,772

CO Comparison Table (kg/day)					
Analysis Year	Model	Off-Model	Comparison Amount	Budget Amount	
2005	136,146	410	135,736	145,794	OK
2010	109,150	650	108,500	145,794	OK
2015	95,896	764	95,133	160,771	OK
2020	90,859	877	89,982	160,771	OK
2030	104,840	1,300	103,540	160,771	OK

	Year	CO(tons/day)	CO(kg/day)
		Budget Amount	Budget Amount
existing SIP budget	2005	160.71	145,794
proposed SIP budget	2015	174.44	160,771

Orange County

NOx Comparison Table (kg/day)					
Analysis Year	Model	Off-Model	Comparison Amount	Budget Amount	
2002	13,668	0	13,668		
2010	6,711	0	6,711	13,668	OK
2020	2,100	0	2,100	13,668	OK
2030	1,608	0	1,608	13,668	OK

Volatile Organic Compound Comparison Table (kg/day)					
Analysis Year	Model	Off-Model	Comparison Amount	Budget Amount	
2002	4,270	0	4,270		
2010	2,470	0	2,470	4,270	OK
2020	1,507	0	1,507	4,270	OK
2030	1,478	0	1,478	4,270	OK

Chatham County

NOx Comparison Table (kg/day)					
Analysis Year	Model	Off-Model	Comparison Amount	Budget Amount	
2002	729	0	729		
2010	503	0	503	729	OK
2020	160	0	160	729	OK
2030	142	0	142	729	OK

Volatile Organic Compound Comparison Table (kg/day)					
Analysis Year	Model	Off-Model	Comparison Amount	Budget Amount	
2002	612	0	612		
2010	444	0	444	612	OK
2020	180	0	180	612	OK
2030	194	0	194	612	OK

Emissions Budget Comparison

Person County

Volatile Organic Compound Comparison Table

Analysis Year	Estimated VMT	Estimated Emissions from the Transportation System (KG)	Emissions Budget Amount (KG)
2002	798,930.0	1,610.08	-
2010	953,067.7	1,023.03	-
2020	1,138,848.3	660.31	-
2030	1,324,628.9	592.26	-

NOx Comparison Table

Analysis Year	Estimated VMT	Estimated Emissions from the Transportation System (KG)	Emissions Budget Amount (KG)
2002	798,930.0	1,840.17	-
2010	953,067.7	1,103.04	-
2020	1,138,848.3	599.30	-
2030	1,324,628.9	484.35	-

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Dutchville Township, Granville County

NOx Comparison Table (kg/day)					
Analysis Year	Model	Off-Model	Comparison Amount	Budget Amount	
2002	2,372	0			
2007	1,310	0	1,310	1,324	OK
2009	1,137	0	1,137	1,324	OK
2010	1,005	0	1,005	1,025	OK
2012	771	0	771	807	OK
2015	530	0	530	562	OK
2020	333	0	333	562	OK
2030	290	0	290	562	OK

Volatile Organic Compound Comparison Table (kg/day)					
Analysis Year	Model	Off-Model	Comparison Amount	Budget Amount	
2002	615	0			
2007	426	0	426	499	OK
2009	390	0	390	417	OK
2010	370	0	370	417	OK
2012	324	0	324	372	OK
2015	279	0	279	336	OK
2020	240	0	240	336	OK
2030	269	0	269	336	OK

Remainder of Granville County:

Emissions Budget Comparison Granville County (portion)

Volatile Organic Compound Comparison Table

Analysis Year	Estimated VMT	Estimated Emissions from the Transportation System (KG)	Emissions Budget Amount (KG)
2002	999,253.2	1,847.89	-
2010	1,180,763.8	1,082.42	-
2020	1,441,892.2	627.56	-
2030	1,703,020.7	527.98	-

NOx Comparison Table

Analysis Year	Estimated VMT	Estimated Emissions from the Transportation System (KG)	Emissions Budget Amount (KG)
2002	999,253.2	3,924.50	-
2010	1,180,763.8	2,063.77	-
2020	1,441,892.2	814.79	-
2030	1,703,020.7	500.64	-

Johnston County

NOx Comparison Table (kg/day)					
Analysis Year	Model	Rural portion	Total County	Budget Amount	
2002	2,411	13,910	16,321		
2010	1,475	8,112	9,587	16,321	OK
2020	653	3,211	3,864	16,321	OK
2030	474	1,980	2,454	16,321	OK
VOC Table (kg/day)					
Analysis Year	Model	Rural portion	Total County	Budget Amount	
2002	1,277	6,139	7,416		
2010	896	3,983	4,879	7,416	OK
2020	605	2,400	3,005	7,416	OK
2030	575	2,074	2,649	7,416	OK

Franklin County

NOx Comparison Table (kg/day)					
Analysis Year	Model	Rural portion	Total County	Budget Amount	
2002	259	2,514	2,773		
2010	183	1,440	1,623	2,773	OK
2020	110	640	750	2,773	OK
2030	101	440	541	2,773	OK
VOC Table (kg/day)					
Analysis Year	Model	Rural portion	Total County	Budget Amount	
2002	228	1,973	2,201		
2010	172	1,210	1,382	2,201	OK
2020	127	700	827	2,201	OK
2030	140	596	736	2,201	OK