

Appendix H. Off-Model Analysis for Incident Detection, Notification and Response Programs on Interstate Highways in Durham and Wake Counties

Durham County Freeway Emissions						
Year	Pollutant					
	NOX	VOC	CO			
2002 Total	12,163	4,092	66,982			
2010 Total	5,997	2,387	53,057			
2020 Total	2,001	1,594	47,725			
2030 Total	1,494	1,493	53,076			

Emissions Caused by Nonrecurring Congestion (4.9% of total).						
Year	Pollutant					
	NOX	VOC	CO			
2002 Total	596	201	3282			
2010 Total	294	117	2600			
2020 Total	98	78	2339			
2030 Total	73	73	2601			

Program Type				Effectiveness			
Incident Detection and Response			50%	1	Program in Use =	1	2002 Total
Motorist Assistance Patrol			25%	2		1	2010 Total
Surveillance			15%	3		1	2020 Total
						1	2030 Total

Emissions Reduction						
Year	Total Freeway VMT	Percent of VMT Subject to Program	NOX	VOC	CO	
			(KG/Day)	(KG/Day)	(KG/Day)	
2002 Total	3,636,474	25%	74	25	410	
2010 Total	4,588,049	50%	73	29	650	
2020 Total	5,968,234	75%	37	29	877	
2030 Total	7,031,955	100%	37	37	1,300	

Note: Freeway VMT is the total of Urban Interstate, Urban Freeway and Rural Interstate VMT.

Wake County Freeway Emissions

Year	Pollutant			
	NOX	VOC	CO	
2002 Total	23,391	7,362	109,168	2005
2010 Total	15,913	7,782	110,022	2010
2020 Total	13,742	9,119	100,103	2020
2030 Total	8,678	6,270	128,241	2030

Emissions Caused by Nonrecurring Congestion (4.9% of total).

Year	Pollutant			
	NOX	VOC	CO	
2002 Total	1146	361	5349	2005
2010 Total	780	381	5391	2010
2020 Total	673	447	4905	2020
2030 Total	425	307	6284	2030

Program Type		Effectiveness		Program in Use =	1	2002 Total
Incident Detection and Response		50%	1		1	2010 Total
Motorist Assistance Patrol		25%	2	1	2020 Total	
Surveillance		15%	3	1	2030 Total	

Year	Emissions Reduction				
	Total Freeway VMT	Percent of VMT Subject to Program	NOX	VOC	CO
			(KG/Day)	(KG/Day)	(KG/Day)
2002 Total	6,630,006	25%	143	45	669
2010 Total	9,530,535	50%	195	95	1,348
2020 Total	12,513,326	75%	253	168	1,839
2030 Total	16,957,985	100%	213	154	3,142

Note: Freeway VMT is the total of Urban Interstate, Urban Freeway and Rural Interstate VMT.