Estimated Percentage Reductions for 2007 Baseline Emissions (Based on Fred Huggins Spreadsheet)

Nashville EAC Area

Control Measures Dropped by Davidson Co.

Source Category	Davidson, TN			Rutherford, TN			Summer, TN			Williamson, TN			Willson, TN			Cheatham, TN			Dickson, TN			Robertson, TN			Totals		
	NOx TPD	VOC TPD	CO TPD	NOx TPD	VOC TPD	CO TPD	NOx TPD	VOC TPD	CO TPD	NOx TPD	VOC TPD	CO TPD	NOx TPD	VOC TPD	CO TPD	NOx TPD	VOC TPD	CO TPD	NOx TPD	VOC TPD	CO TPD	NOx TPD	VOC TPD	CO TPD	NOx TPD	VOC TPD	CO TPD
Area																											
-resid. Garbage2A.	0	0	0	0.03	0.03	0.36	0.02	0.02	0.22	0.02	0.02	0.28	0.02	0.02	0.22	0.06	0.07	0.82	0.06	0.07	0.81	0.06	0.07	0.85	0.2514	0.3043	3.5617
-yard waste2B.	0	0	0	0.01	0.04	0.20	0.00	0.02	0.13	0.01	0.03	0.16	0.00	0.02	0.12	0.00	0.02	0.08	0.00	0.02	0.08	0.00	0.02	0.09	0.0274	0.161	0.8642
-const. Land clear2C.	0.1114	0.4234	3.0	0.23	0.88	10.75	0.24	0.90	5.70	0.32	1.23	10.60	0.23	0.86	4.65	0.06	0.23	1.45	0.09	0.33	2.60	0.16	0.61	2.20	1.4411	5.476	40.9518
-lower gas RVP4.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02	0.33	1.59	0.02	0.45	1.95	0.03	0.43	2.51	0.07	1.21	6.05
-stage I6.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.41	0	0	0.59	0	0	1.3	0
-AQAD measures21.	0.51	0.22	2.68	0.17	0.06	0.72	0.08	0.04	0.41	0.11	0.04	0.51	0.11	0.03	0.43	0.06	0.02	0.27	0.06	0.03	0.33	0.12	0.03	0.43	1.22	0.47	5.78
																									0	0	0
Nonroad Mobile																									0	0	0
-TDOT contractors17A.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-all other contractors17B.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-new airport veh.18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
																									0	0	0
Onroad Mobile																									0	0	0
-more stringent I/M3.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.31	0.6	7.42	0.4	0.81	9.26	0.47	0.81	11.03	1.18	2.22	27.71
-smoking vehicle ban5.	0	0	0	0.01	0.02	0.18	0.01	0.01	0.13	0.01	0.01	0.12	0.01	0.01	0.09	0	0	0.03	0	0	0.04	0	0	0.05	0.04	0.05	0.64
-lower interstae speed limit7.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-HOV lane expansion8.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-trip reduction plans9.	0.0398	0.051	0.5775	0	0	0	0	0	0	0.0133	0.017	0.1925	0	0	0	0	0	0	0	0	0	0	0	0	0.0531	0.068	0.77
-rideshare programs10.	0.001	0.0013	0.0138	0.001	0.0013	0.0138	0.001	0.0013	0.0138	0.001	0.0013	0.0138	0.001	0.0013	0.0138	0.001	0.0013	0.0138	0.001	0.0013	0.0138	0.001	0.0013	0.0138	0.008	0.0104	0.1104
-traffic signal synchronization11A.	0.091	0.1097	0.6786	0.0375	0.05	0.305	0.0325	0.0375	0.225	0.0175	0.0225	0.1425	0.015	0.0175	0.105	0	0	0	0.0075	0.015	0.08	0.005	0.0075	0.05	0.206	0.2597	1.5861
-roadside assistance program11B.	0.031	0.031	0.333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.031	0.031	0.333
-new greenways/bikeways	0.0097	0.0123	0.14	0.0073	0.0092	0.105	0.0073	0.0092	0.105	0.0073	0.0092	0.105	0.0073	0.0092	0.105	0.0073	0.0092	0.105	0.0073	0.0092	0.105	0.0073	0.0092	0.105	0.0608	0.0767	0.875
-low emission fleets (on-road)	0	0	0	0	0	0	0.0065	0	0.004	0.0098	0	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.0163	0	0.01
-truck stop electrification	0	0	0	0	0	0	0	0	0	0	0	0	1.85	0.17	1.56	0	0	0	0	0	0	0	0	0	1.85	0.17	1.56
-reduce school bus idling	0.0073	0.0009	0.007	0.0027	0.0003	0.0024	0.0029	0.0003	0.0026	0.0025	0.0003	0.0023	0.0017	0.0002	0.0016	0.0012	0.0001	0.0011	0.0012	0.0001	0.0011	0.0013	0.0001	0.0012	0.0208	0.0023	0.0193
-improve bus ridership	0.01	0.012	0.14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.012	0.14
-new rail service	0.0205	0.037	0.42	0	0	0	0	0	0	0	0	0	0.0205	0.037	0.42	0	0	0	0	0	0	0	0	0	0.041	0.074	0.84
-reduced bus fare on AQAD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-cetane additive to diesel fuel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-land use controls to reduce VMT	0.26	0.11	1.34	0.09	0.03	0.36	0.04	0.02	0.21	0.05	0.02	0.26	0.05	0.02	0.21	0.03	0.01	0.13	0.03	0.02	0.16	0.06	0.02	0.21	0.61	0.25	2.88
Low-level Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elevated Point1.																											
-boilers1A.	0	0	0	0.324	0.01	0.101				0	0	0	0.14	0	0	0	0	0	0	0	0	0	0	0	0.464	0.01	0.101
-nat. gas comp.1B.	0	0	0	0	0	0	3.8	0	0	0	0	0													3.8	0	0
-glass plant1C.	2.12																								2.12	0	0
TPD Em. Reduction	3.21	1.01	9.33	0.91	1.13	13.11	4.24	1.07	7.15	0.57	1.40	12.40	2.45	1.20	7.93	0.55	1.59	11.91	0.67	2.16	15.43	0.92	2.60	17.53	13.52	12.16	94.78
TPD County Em. W/o Control (fromSAI)	87.7	57.58	462.29	27.09	32.03	132.09	78.4	23.4	76.74	20.87	20.52	139.43	14.72	15.31	77.95	9.51	8.28	41.01	11.74	15.34	56.23	13.21	13.52	50.8	263.24	185.98	1036.54
Percent Reduction in Emissions	3.66%	1.75%	2.02%	3.35%	3.53%	9.92%	5.41%	4.55%	9.32%	2.73%	6.84%	8.89%	16.65%	7.83%	10.17%	5.79%	19.16%	29.04%	5.74%	14.09%	27.45%	6.95%	19.23%	34.51%	5.14%	6.54%	9.14%
TPD Reduction in Emis by Source Category:																											
Area	0.111	0.423	3.000	0.264	0.951	11.318	0.258	0.948	6.051	0.348	1.283	11.044	0.246	0.903	4.992	0.121	0.616	2.349	0.147	0.826	3.493	0.224	1.292	3.131	1.72	7.24	45.38
Motor Vehicles (incl RVP & AQAD)	0.980	0.585	6.330	0.319	0.171	1.686	0.180	0.118	1.100	0.221	0.120	1.352	2.066	0.295	2.935	0.430	0.971	9.560	0.527	1.336	11.940	0.695	1.308	14.400	5.42	4.90	49.30
Non-Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
Low-level Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
Elev. Point	2.120	0.000	0.000	0.324	0.010	0.101	3.800	0.000	0.000	0.000	0.000	0.000	0.140	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.38	0.01	0.10
TPD Emis w/o Contls by Source Category:																											
Area	0.49	21.72	3.35	3.04	20.47	14.58	0.99	13.92	6.74	1.57	10.97	12.27	1.12	9	5.59	0.29	3.35	2.65	0.75	5.52	3.92	0.96	9.02	3.47	9.21	93.97	52.57
Motor Vehicles	48.62	19.81	252.95	17.02	6.18	77.77	8.86	3.68	44.7	12.6	5.28	66.99	10.4	3.49	45.08	6.98	2.77	32.23	7.83	4.01	43.01	9	3.06	38.16	121.31	48.28	600.89
Non-Road	22.66	9.21	190.45	6.32	2.13	39.34	3.91	1.29	20.16	6	2.46	55.45	2.45	2.05	27.14	2.11	0.62	6.11	2.59	0.68	9.19	3.22	0.45	9.16	49.26	18.89	357
Low-level Point	1.1	5.85	1.69	0.2	3.2	0.2	0.38	4.26	0.14	0.55	1.78	0.57	0.0	0.18	0.0	0.13	1.54	0.02	0.08	2.73	0.01	0.03	0.95	0.01	2.47	20.49	2.64
Elev. Point	14.83	0.99	13.85	0.51	0.05	0.2	64.26	0.25	5	0.15	0.03	4.15	0.75	0.59	0.14	0.0	0.0	0.0	0.49	2.4	0.1	0.0	0.04	0.0	80.99	4.35	23.44
Percent Reductions by Source Category:																											
Area	22.73%	1.95%	89.55%	8.69%	4.64%	77.63%	26.05%	6.81%	89.78%	22.19%	11.69%	90.01%	21.97%	10.04%	89.31%	41.69%	18.38%	88.63%	19.61%	14.97%	89.10%	23.33%	14.32%	90.22%	18.67%	7.71%	86.32%
Motor Vehicles	2.02%	2.95%	2.50%	1.87%	2.76%	2.17%	2.03%	3.21%	2.46%	1.76%	2.28%	2.02%	19.86%	8.46%	6.51%	6.15%	35.04%	29.66%	6.73%	33.31%	27.76%	7.72%	42.75%	37.74%	4.47%	10.16%	8.21%
Non-Road	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Low-level Point	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Elev. Point	14.30%	0.00%	0.00%	63.53%	20.00%	50.50%	5.91%	0.00%	0.00%	0.00%	0.00%	0.00%	18.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.88%	0.23%	0.43%

1. New RACT Rule
   A. Boilers - Do not take reductions for Davidson County boilers. They are already subject to 100 tpy NOx RACT. Only take reductions for Nissan (Rutherford=0.324 tpd) and TVA Gallatin (Sumner=need infor.).
   B. Gas Compressors - Use all of UT's reductions (Sumner=3.8 tpd and Wilson=0.14 tpd). Need to verify if these are elevated or low level point sources.
   C. Assume Visteon permanently shuts down furnace #3 and furnace #2 remains (2.12 tpd).
2. Open Burning Ban
   A. Residential Garbage and Refuse - Assume no reduction for residential garbage burning in Davidson County. Use UT's numbers for all other counties.
   B. Yard Waste (Brush) - Use UT's numbers for all counties.
   C. Construction Land Clearing - The Davidson County acreage estimate is too high. Use 15% of UT's estimate per our air curtain destructor data. Use UT's numbers for all other counties.
3. More Stringent Vehicle I/M - Assume the Davidson County I/M program is implemented in Cheatham, Dickson and Robertson Counties, and the I/M program in Rutherford, Sumner, Williamson and Wilson are operated per the Davidson County program.
4. Lower Gasoline RVP - Use UT's numbers and assume RVP is lowered to 7.0 in all counties.
5. Davidson County already has a smoking vehicle regulation. Therefore, no additional reductions should be expected from Davidson County. Assume UT's estimate for all other counties.
6. Stage I - Use UT's numbers. Reductions are available only in Cheatham, Dickson and Robertson.
7. Lower Speed Limits on Rural Interstates - Do not expect that the speed limit will be lowered 10 mph per UT's report. Assume no reductions.
8. HOV Lane Expansions - Matt Meservy increased UT's estimate by 50% from removing 1000 vehicles per day to removing 1500 vehicles per day. All available credit was not taken by UT for the amount of HOV lanes to be completed in the 2005 - 2006 timeframe according to the Nashville MPO .
9. Trip Reduction Plans - The Nashville MPO assumed that 75% of the trip reductions would occur in Davidson County and 25% would occur in Wilson County.
10. Rideshare Programs - The Nashville MPO assumed the VMT reductions and emission reductions should be evenly distributed across the 8 county MSA.
11. ITS Improvements
   A. Traffic Signal Synchronization - The Nashville MPO plans to implement traffic synchronization projects on approx. 431 miles of urban arterials in Davidson County covering most of the urban arterial in the county. Since the UT report states that actual potential emission reductions for traffic flow improvement may be

A. Traffic Signal Synchronization - The Nashville MPO plans to implement traffic synchronization projects on approx. 431 miles of urban arterials in Davidson County covering most of the urban arterial in the county. Since the UT report states that actual potential emission reductions for traffic flow improvement may be somewhat less than calculated, assume 25% of the UT estimated reductions for all 8 counties in the MSA.

B. Roadside Assistance Program - The UT report did not specify where the emissions should be allocated. The Nashville MPO assumed that all emission reductions would occur in Davidson County.

17. Construction Equipment Emission Reductions

A. TDOT Contractors - Assume only 10% of all old equipment will be replaced with new equipment. Therefore, assume 10% of UT's emission reduction.

B. All Other Contractors - Assume only 10% of all old equipment will be replaced with new equipment. Therefore, assume 10% of UT's emission reduction.

18. New Airport Service Vehicles - Same as 17A and B.

21. AQAD Measures - Use UT's numbers for all counties.