

Appendix F. Mobile 6.2 Emission Factors (grams/mile)

This appendix contains the NOx and CO emission factors by county, year, time of day and IM status.

NOx Conformity Emission Factors for Chatham County (grams per mile)								
	2015		2017		2025		2035	
	TDM AM Peak		TDM AM Peak		TDM AM Peak		TDM AM Peak	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural principal arterial	0.894	1.018	0.690	0.821	0.312	0.458	0.209	0.354
Rural minor arterial	0.697	0.824	0.559	0.693	0.265	0.414	0.192	0.340
Rural major collector	0.667	0.793	0.527	0.660	0.253	0.399	0.182	0.328
Rural minor collector	0.610	0.739	0.485	0.620	0.242	0.392	0.182	0.331
Rural local	0.707	0.849	0.560	0.710	0.279	0.445	0.212	0.381
Urban principal arterial	0.669	0.800	0.531	0.669	0.255	0.408	0.185	0.336
Urban minor arterial	0.564	0.695	0.451	0.590	0.231	0.385	0.179	0.332
Urban collector	0.558	0.692	0.447	0.589	0.229	0.387	0.177	0.332
Urban local	0.588	0.719	0.469	0.607	0.239	0.392	0.181	0.334
	TDM PM Peak		TDM PM Peak		TDM PM Peak		TDM PM Peak	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural principal arterial	0.877	1.000	0.690	0.821	0.305	0.450	0.202	0.345
Rural minor arterial	0.697	0.824	0.559	0.693	0.261	0.409	0.186	0.333
Rural major collector	0.662	0.788	0.519	0.652	0.249	0.395	0.184	0.331
Rural minor collector	0.606	0.734	0.481	0.617	0.242	0.392	0.181	0.330
Rural local	0.696	0.837	0.551	0.699	0.279	0.445	0.212	0.381
Urban principal arterial	0.669	0.800	0.518	0.656	0.253	0.406	0.184	0.335
Urban minor arterial	0.560	0.692	0.448	0.586	0.230	0.383	0.177	0.330
Urban collector	0.539	0.673	0.432	0.573	0.220	0.375	0.175	0.331
Urban local	0.588	0.719	0.469	0.607	0.239	0.392	0.179	0.330
	TDM Off-Peak		TDM Off-Peak		TDM Off-Peak		TDM Off-Peak	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural principal arterial	0.894	1.018	0.704	0.834	0.321	0.467	0.216	0.362
Rural minor arterial	0.704	0.831	0.564	0.698	0.267	0.417	0.192	0.340
Rural major collector	0.671	0.797	0.530	0.663	0.256	0.403	0.185	0.331
Rural minor collector	0.610	0.739	0.485	0.620	0.243	0.394	0.183	0.332
Rural local	0.707	0.849	0.560	0.710	0.284	0.453	0.212	0.381
Urban principal arterial	0.696	0.827	0.551	0.690	0.270	0.426	0.200	0.354
Urban minor arterial	0.564	0.695	0.451	0.590	0.232	0.387	0.179	0.332
Urban collector	0.566	0.701	0.451	0.593	0.235	0.393	0.183	0.340
Urban local	0.588	0.719	0.469	0.607	0.239	0.392	0.182	0.335
	Non-model Spreadsheet		Non-model Spreadsheet		Non-model Spreadsheet		Non-model Spreadsheet	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural principal arterial	0.877	1.000	0.690	0.821	0.315	0.461	0.216	0.362
Rural major collector	0.758	0.885	0.597	0.732	0.289	0.440	0.208	0.359
Rural local	0.742	0.870	0.585	0.721	0.285	0.437	0.206	0.358

NOx Conformity Emission Factors Franklin County (grams/mile)

	2015		2017		2025		2035	
	TDM AM Peak		TDM AM Peak		TDM AM Peak		TDM AM Peak	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural principal arterial	0.959	1.083	0.753	0.884	0.336	0.483	0.224	0.372
Rural minor arterial	0.723	0.850	0.574	0.708	0.272	0.422	0.195	0.344
Rural major collector	0.697	0.823	0.550	0.684	0.264	0.412	0.191	0.338
Rural minor collector	0.623	0.752	0.491	0.627	0.241	0.391	0.181	0.330
Rural local	0.731	0.877	0.579	0.733	0.295	0.470	0.221	0.396
Urban principal arterial	0.677	0.808	0.531	0.669	0.257	0.411	0.190	0.343
Urban minor arterial	0.554	0.686	0.442	0.580	0.226	0.380	0.175	0.328
Urban collector	0.578	0.713	0.463	0.606	0.227	0.384	0.178	0.335
Urban local	0.614	0.755	0.490	0.638	0.252	0.417	0.194	0.359
	TDM PM Peak		TDM PM Peak		TDM PM Peak		TDM PM Peak	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural principal arterial	0.944	1.068	0.729	0.860	0.326	0.473	0.216	0.362
Rural minor arterial	0.710	0.838	0.564	0.698	0.267	0.417	0.192	0.340
Rural major collector	0.690	0.816	0.539	0.673	0.258	0.405	0.186	0.333
Rural minor collector	0.619	0.748	0.488	0.624	0.240	0.390	0.180	0.329
Rural local	0.731	0.877	0.579	0.733	0.295	0.470	0.221	0.396
Urban principal arterial	0.661	0.792	0.525	0.663	0.249	0.401	0.185	0.336
Urban minor arterial	0.550	0.682	0.441	0.581	0.232	0.389	0.186	0.346
Urban collector	0.572	0.707	0.458	0.601	0.226	0.382	0.177	0.332
Urban local	0.607	0.746	0.484	0.631	0.252	0.417	0.194	0.359
	TDM Off-Peak		TDM Off-Peak		TDM Off-Peak		TDM Off-Peak	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural principal arterial	0.959	1.083	0.753	0.884	0.336	0.483	0.227	0.375
Rural minor arterial	0.733	0.861	0.582	0.716	0.272	0.422	0.196	0.346
Rural major collector	0.703	0.830	0.555	0.689	0.266	0.415	0.192	0.340
Rural minor collector	0.623	0.752	0.495	0.631	0.241	0.391	0.181	0.330
Rural local	0.745	0.894	0.590	0.747	0.295	0.470	0.221	0.396
Urban principal arterial	0.684	0.815	0.537	0.675	0.263	0.417	0.194	0.348
Urban minor arterial	0.560	0.692	0.443	0.582	0.228	0.381	0.176	0.328
Urban collector	0.578	0.713	0.463	0.606	0.226	0.382	0.178	0.333
Urban local	0.622	0.765	0.490	0.638	0.255	0.422	0.197	0.363
	Non-model Spreadsheet		Non-model Spreadsheet		Non-model Spreadsheet		Non-model Spreadsheet	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural principal arterial	0.794	0.916	0.627	0.756	0.289	0.432	0.200	0.343
Rural minor arterial	0.685	0.812	0.545	0.678	0.261	0.409	0.189	0.337
Rural major collector	0.667	0.793	0.527	0.660	0.258	0.405	0.189	0.336
Rural minor collector	0.615	0.744	0.488	0.624	0.245	0.396	0.184	0.334
Rural local	0.650	0.776	0.514	0.647	0.253	0.401	0.187	0.334
Urban principal arterial	0.599	0.731	0.476	0.616	0.241	0.395	0.183	0.336
Urban minor arterial	0.551	0.685	0.441	0.581	0.228	0.383	0.177	0.331
Urban local	0.573	0.705	0.457	0.596	0.234	0.387	0.179	0.332

NOx Conformity Emission Factors for Granville County (grams/mile)

	2015		2017		2025		2035	
	TDM AM Peak		TDM AM Peak		TDM AM Peak		TDM AM Peak	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	1.389	1.502	1.075	1.196	0.424	0.559	0.252	0.386
Rural minor arterial	-	-	1.029	1.305	0.263	0.411	0.190	0.337
Rural major collector	0.659	0.783	0.517	0.648	0.251	0.396	0.185	0.330
Rural minor collector	0.596	0.723	0.474	0.607	0.237	0.386	0.177	0.325
Rural local	0.741	0.888	0.587	0.742	0.299	0.476	0.224	0.401
Urban minor arterial	0.544	0.675	0.435	0.573	0.230	0.385	0.189	0.351
Urban collector	0.521	0.655	0.418	0.558	0.222	0.378	0.175	0.330
	TDM PM Peak		TDM PM Peak		TDM PM Peak		TDM PM Peak	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	1.389	1.502	1.075	1.196	0.383	0.516	0.233	0.365
Rural minor arterial	-	-	1.029	1.305	0.263	0.411	0.189	0.335
Rural major collector	0.654	0.778	0.513	0.644	0.248	0.393	0.183	0.327
Rural minor collector	0.591	0.719	0.470	0.604	0.240	0.390	0.180	0.329
Rural local	0.741	0.888	0.587	0.742	0.299	0.476	0.224	0.401
Urban minor arterial	0.550	0.682	0.445	0.585	0.265	0.442	0.217	0.401
Urban collector	0.549	0.689	0.440	0.588	0.235	0.400	0.186	0.351
	TDM Off-Peak		TDM Off-Peak		TDM Off-Peak		TDM Off-Peak	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	1.389	1.502	1.075	1.196	0.453	0.588	0.278	0.414
Rural minor arterial	-	-	1.029	1.305	0.266	0.413	0.190	0.337
Rural major collector	0.680	0.805	0.531	0.663	0.262	0.409	0.191	0.337
Rural minor collector	0.598	0.726	0.475	0.609	0.237	0.385	0.179	0.326
Rural local	0.741	0.888	0.587	0.742	0.299	0.476	0.224	0.401
Urban minor arterial	0.547	0.677	0.437	0.574	0.224	0.376	0.174	0.324
Urban collector	0.521	0.655	0.420	0.561	0.224	0.381	0.180	0.339
	Non-model Spreadsheet		Non-model Spreadsheet		Non-model Spreadsheet		Non-model Spreadsheet	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	1.390	1.505	1.077	1.199	0.454	0.591	0.279	0.417
Rural principal arterial	0.786	0.908	0.621	0.750	0.286	0.429	0.198	0.341
Rural minor arterial	0.685	0.812	0.545	0.678	0.261	0.409	0.189	0.337
Rural major collector	0.667	0.793	0.527	0.660	0.258	0.405	0.189	0.336
Rural minor collector	0.615	0.744	0.488	0.624	0.245	0.396	0.184	0.334
Rural local	0.650	0.776	0.514	0.647	0.253	0.401	0.187	0.334
Urban Interstate	0.951	1.078	0.742	0.876	0.345	0.496	0.237	0.388
Urban principal arterial	0.599	0.731	0.476	0.616	0.241	0.395	0.183	0.336
Urban minor arterial	0.551	0.685	0.441	0.581	0.228	0.383	0.177	0.331
Urban collector	0.527	0.663	0.423	0.565	0.223	0.380	0.176	0.332
Urban local	0.573	0.705	0.457	0.596	0.234	0.387	0.179	0.332

2015 Conformity Emission Factors for Durham County (grams/mile)

	TDM AM Peak		TDM PM Peak		TDM Off-Peak	
	NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	0.960	1.068	0.795	0.901	1.033	1.141
Rural principal arterial	0.572	0.686	0.563	0.677	0.584	0.699
Rural minor arterial	0.562	0.683	0.535	0.654	0.590	0.711
Rural major collector	0.524	0.643	0.514	0.633	0.530	0.649
Rural minor collector	0.478	0.599	0.478	0.599	0.481	0.603
Rural local	0.503	0.625	0.507	0.630	0.507	0.630
Urban Interstate	0.744	0.864	0.658	0.777	0.759	0.879
Urban freeway	0.559	0.680	0.518	0.638	0.552	0.673
Urban principal arterial	0.468	0.590	0.462	0.584	0.468	0.590
Urban minor arterial	0.439	0.563	0.434	0.558	0.437	0.561
Urban collector	0.424	0.550	0.416	0.542	0.422	0.547
Urban local	0.488	0.622	0.488	0.622	0.488	0.622

2017 Conformity Emission Factors for Durham County

	TDM AM Peak		TDM PM Peak		TDM Off-Peak	
	NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	0.649	0.760	0.553	0.662	0.762	0.874
Rural principal arterial	0.435	0.554	0.429	0.547	0.442	0.560
Rural minor arterial	0.419	0.543	0.405	0.528	0.452	0.577
Rural major collector	0.403	0.526	0.395	0.518	0.407	0.530
Rural minor collector	0.370	0.495	0.370	0.495	0.373	0.498
Rural local	0.388	0.514	0.391	0.518	0.391	0.518
Urban Interstate	0.560	0.684	0.490	0.613	0.560	0.684
Urban freeway	0.424	0.549	0.395	0.519	0.424	0.549
Urban principal arterial	0.363	0.489	0.358	0.485	0.362	0.487
Urban minor arterial	0.343	0.471	0.339	0.468	0.343	0.471
Urban collector	0.333	0.463	0.327	0.457	0.333	0.463
Urban local	0.381	0.519	0.381	0.519	0.381	0.519

2025 Conformity Emission Factors for Durham County

	TDM AM Peak		TDM PM Peak		TDM Off-Peak	
	NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	0.244	0.360	0.237	0.353	0.344	0.466
Rural principal arterial	0.214	0.340	0.215	0.342	0.223	0.350
Rural minor arterial	0.219	0.353	0.214	0.347	0.234	0.370
Rural major collector	0.209	0.340	0.204	0.335	0.211	0.343
Rural minor collector	0.200	0.334	0.200	0.334	0.200	0.334
Rural local	0.211	0.347	0.215	0.354	0.212	0.350
Urban Interstate	0.270	0.404	0.243	0.375	0.274	0.409
Urban freeway	0.227	0.363	0.211	0.345	0.227	0.363
Urban principal arterial	0.200	0.335	0.196	0.331	0.200	0.335
Urban minor arterial	0.192	0.329	0.191	0.329	0.191	0.328
Urban collector	0.189	0.328	0.187	0.326	0.189	0.328
Urban local	0.213	0.362	0.216	0.366	0.216	0.366

2035 Conformity Emission Factors for Durham County						
	TDM AM Peak		TDM PM Peak		TDM Off-Peak	
	NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	0.191	0.306	0.190	0.306	0.270	0.392
Rural principal arterial	0.178	0.304	0.178	0.305	0.183	0.310
Rural minor arterial	0.193	0.328	0.187	0.321	0.196	0.332
Rural major collector	0.175	0.305	0.173	0.304	0.178	0.309
Rural minor collector	0.171	0.305	0.171	0.305	0.171	0.305
Rural local	0.180	0.316	0.180	0.316	0.183	0.322
Urban Interstate	0.226	0.361	0.208	0.341	0.226	0.361
Urban freeway	0.192	0.327	0.179	0.312	0.192	0.327
Urban principal arterial	0.172	0.307	0.168	0.302	0.171	0.305
Urban minor arterial	0.166	0.302	0.167	0.304	0.166	0.302
Urban collector	0.164	0.303	0.164	0.303	0.164	0.303
Urban local	0.185	0.333	0.188	0.337	0.188	0.337

NOx Conformity Emission Factors for Johnston County (grams per mile)								
	2015		2017		2025		2035	
	TDM AM Peak		TDM AM Peak		TDM AM Peak		TDM AM Peak	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural interstate	1.390	1.505	1.077	1.199	0.454	0.591	0.279	0.417
Rural principal arterial	1.007	1.132	0.771	0.903	0.315	0.461	0.203	0.347
Rural minor arterial	0.697	0.824	0.554	0.688	0.265	0.414	0.190	0.338
Rural major collector	0.710	0.836	0.555	0.689	0.261	0.409	0.191	0.338
Rural minor collector	0.627	0.756	0.497	0.634	0.241	0.391	0.181	0.330
Rural local	0.670	0.806	0.531	0.673	0.271	0.432	0.202	0.363
Urban interstate	0.991	1.118	0.772	0.907	0.351	0.502	0.243	0.395
Urban principal arterial	0.605	0.734	0.481	0.617	0.237	0.387	0.179	0.329
Urban minor arterial	0.567	0.699	0.453	0.592	0.228	0.381	0.188	0.344
Urban collector	0.542	0.676	0.435	0.576	0.221	0.377	0.172	0.327
Urban local	0.575	0.708	0.459	0.598	0.239	0.395	0.184	0.340
	TDM PM Peak		TDM PM Peak		TDM PM Peak		TDM PM Peak	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural interstate	1.390	1.505	1.077	1.199	0.454	0.591	0.279	0.417
Rural principal arterial	0.843	0.966	0.655	0.785	0.276	0.417	0.187	0.327
Rural minor arterial	0.690	0.816	0.548	0.682	0.263	0.411	0.189	0.337
Rural major collector	0.690	0.816	0.545	0.678	0.256	0.403	0.186	0.333
Rural minor collector	0.619	0.748	0.488	0.624	0.239	0.389	0.179	0.328
Rural local	0.678	0.815	0.537	0.681	0.271	0.432	0.205	0.369
Urban interstate	0.908	1.034	0.757	0.892	0.295	0.442	0.229	0.380
Urban principal arterial	0.593	0.723	0.467	0.603	0.238	0.390	0.189	0.346
Urban minor arterial	0.551	0.682	0.440	0.579	0.228	0.383	0.182	0.336
Urban collector	0.529	0.662	0.422	0.562	0.220	0.375	0.176	0.332
Urban local	0.589	0.725	0.474	0.618	0.243	0.403	0.187	0.346

NOx Conformity Emission Factors for Johnston County (grams per mile) [continued]								
	2015		2017		2025		2035	
	TDM Off-Peak		TDM Off-Peak		TDM Off-Peak		TDM Off-Peak	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural interstate	1.390	1.505	1.077	1.199	0.454	0.591	0.279	0.417
Rural principal arterial	1.052	1.178	0.823	0.956	0.362	0.511	0.227	0.375
Rural minor arterial	0.704	0.831	0.554	0.688	0.265	0.414	0.192	0.340
Rural major collector	0.720	0.847	0.568	0.702	0.268	0.417	0.194	0.342
Rural minor collector	0.627	0.756	0.497	0.634	0.242	0.392	0.182	0.331
Rural local	0.678	0.815	0.537	0.681	0.271	0.432	0.205	0.369
Urban interstate	0.991	1.118	0.772	0.907	0.357	0.508	0.243	0.395
Urban principal arterial	0.616	0.746	0.490	0.627	0.244	0.396	0.182	0.332
Urban minor arterial	0.573	0.706	0.456	0.595	0.234	0.388	0.189	0.345
Urban collector	0.545	0.679	0.437	0.578	0.222	0.378	0.174	0.329
Urban local	0.580	0.713	0.462	0.603	0.243	0.403	0.185	0.343
	Non-model Spreadsheet		Non-model Spreadsheet		Non-model Spreadsheet		Non-model Spreadsheet	
	NOX		NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural interstate	1.390	1.505	1.077	1.199	0.454	0.591	0.279	0.417
Rural principal arterial	0.794	0.916	0.627	0.756	0.289	0.432	0.200	0.343
Rural minor arterial	0.685	0.812	0.545	0.678	0.261	0.409	0.189	0.337
Rural major collector	0.667	0.793	0.527	0.660	0.258	0.405	0.189	0.336
Rural minor collector	0.615	0.744	0.488	0.624	0.245	0.396	0.184	0.334
Rural local	0.650	0.776	0.514	0.647	0.253	0.401	0.187	0.334
Urban interstate	0.951	1.078	0.742	0.876	0.345	0.496	0.237	0.388
Urban principal arterial	0.599	0.731	0.476	0.616	0.241	0.395	0.183	0.336
Urban minor arterial	0.551	0.685	0.441	0.581	0.228	0.383	0.177	0.331
Urban collector	0.527	0.663	0.423	0.565	0.223	0.380	0.176	0.332
Urban local	0.573	0.705	0.457	0.596	0.234	0.387	0.179	0.332

2015 Conformity Emission Factors for Orange County (grams per mile)						
	TDM AM Peak		TDM PM Peak		TDM Off-Peak	
	NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	1.024	1.131	1.024	1.131	1.024	1.131
Rural minor arterial	0.561	0.679	0.553	0.671	0.561	0.679
Rural major collector	0.531	0.649	0.526	0.643	0.531	0.649
Rural minor collector	0.472	0.591	0.469	0.588	0.472	0.591
Rural local	0.532	0.661	0.532	0.661	0.532	0.661
Urban Interstate	0.750	0.868	0.704	0.821	0.750	0.868
Urban freeway	0.494	0.611	0.477	0.594	0.486	0.604
Urban principal arterial	0.450	0.570	0.461	0.583	0.452	0.572
Urban minor arterial	0.423	0.545	0.427	0.550	0.423	0.545
Urban collector	0.410	0.533	0.407	0.530	0.408	0.532
Urban local	0.486	0.619	0.486	0.619	0.493	0.628

2017 Conformity Emission Factors for Orange County (grams per mile)						
	TDM AM Peak		TDM PM Peak		TDM Off-Peak	
	NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	0.755	0.866	0.755	0.866	0.755	0.866
Rural minor arterial	0.430	0.553	0.425	0.547	0.430	0.553
Rural major collector	0.408	0.530	0.404	0.526	0.408	0.530
Rural minor collector	0.366	0.489	0.363	0.487	0.366	0.489
Rural local	0.405	0.537	0.405	0.537	0.411	0.544
Urban Interstate	0.564	0.686	0.531	0.653	0.564	0.686
Urban freeway	0.381	0.502	0.369	0.490	0.383	0.505
Urban principal arterial	0.350	0.473	0.358	0.484	0.350	0.473
Urban minor arterial	0.331	0.457	0.336	0.463	0.331	0.457
Urban collector	0.322	0.450	0.320	0.448	0.321	0.449
Urban local	0.380	0.517	0.380	0.517	0.385	0.525
2025 Conformity Emission Factors for Orange County (grams per mile)						
	TDM AM Peak		TDM PM Peak		TDM Off-Peak	
	NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	0.341	0.462	0.335	0.455	0.341	0.462
Rural minor arterial	0.220	0.352	0.217	0.348	0.220	0.352
Rural major collector	0.213	0.344	0.213	0.344	0.215	0.346
Rural minor collector	0.197	0.329	0.196	0.328	0.197	0.329
Rural local	0.220	0.362	0.220	0.362	0.223	0.367
Urban Interstate	0.281	0.414	0.267	0.400	0.281	0.414
Urban freeway	0.202	0.332	0.200	0.330	0.205	0.336
Urban principal arterial	0.195	0.328	0.208	0.350	0.195	0.328
Urban minor arterial	0.189	0.324	0.194	0.334	0.188	0.323
Urban collector	0.186	0.323	0.184	0.321	0.185	0.322
Urban local	0.217	0.368	0.217	0.368	0.217	0.368
2035 Conformity Emission Factors for Orange County (grams per mile)						
	TDM AM Peak		TDM PM Peak		TDM Off-Peak	
	NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	0.268	0.387	0.268	0.387	0.268	0.387
Rural minor arterial	0.183	0.314	0.182	0.313	0.185	0.316
Rural major collector	0.180	0.309	0.178	0.308	0.181	0.311
Rural minor collector	0.168	0.299	0.168	0.299	0.168	0.299
Rural local	0.188	0.328	0.188	0.328	0.191	0.333
Urban Interstate	0.230	0.363	0.224	0.356	0.230	0.363
Urban freeway	0.170	0.299	0.171	0.301	0.174	0.303
Urban principal arterial	0.169	0.302	0.184	0.328	0.169	0.302
Urban minor arterial	0.164	0.299	0.169	0.307	0.162	0.296
Urban collector	0.161	0.297	0.160	0.295	0.161	0.297
Urban local	0.188	0.337	0.188	0.337	0.188	0.337

2015 Conformity Emission Factors for Wake County (grams/mile)						
	TDM AM Peak		TDM PM Peak		TDM Off-Peak	
	NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	0.951	1.057	0.722	0.826	0.976	1.082
Rural principal arterial	0.654	0.768	0.610	0.723	0.654	0.768
Rural minor arterial	0.520	0.636	0.513	0.630	0.525	0.642
Rural major collector	0.520	0.637	0.515	0.631	0.526	0.642
Rural minor collector	0.460	0.578	0.456	0.574	0.461	0.580
Rural local	0.506	0.629	0.506	0.629	0.517	0.643
Urban Interstate	0.638	0.753	0.562	0.676	0.719	0.836
Urban freeway	0.573	0.691	0.514	0.631	0.592	0.711
Urban principal arterial	0.468	0.587	0.451	0.570	0.474	0.593
Urban minor arterial	0.427	0.548	0.426	0.549	0.433	0.554
Urban collector	0.409	0.531	0.407	0.530	0.411	0.534
Urban local	0.458	0.583	0.467	0.595	0.467	0.595
2017 Conformity Emission Factors for Wake County (grams/mile)						
	TDM AM Peak		TDM PM Peak		TDM Off-Peak	
	NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	0.685	0.794	0.510	0.616	0.703	0.813
Rural principal arterial	0.495	0.613	0.477	0.594	0.489	0.607
Rural minor arterial	0.400	0.520	0.389	0.509	0.404	0.525
Rural major collector	0.399	0.520	0.393	0.513	0.403	0.524
Rural minor collector	0.355	0.477	0.353	0.475	0.357	0.480
Rural local	0.390	0.517	0.390	0.517	0.399	0.528
Urban Interstate	0.474	0.594	0.428	0.546	0.530	0.651
Urban freeway	0.426	0.549	0.385	0.506	0.452	0.575
Urban principal arterial	0.358	0.481	0.352	0.476	0.365	0.488
Urban minor arterial	0.334	0.459	0.335	0.461	0.336	0.461
Urban collector	0.320	0.447	0.322	0.450	0.322	0.449
Urban local	0.360	0.491	0.364	0.496	0.364	0.496
2025 Conformity Emission Factors for Wake County (grams/mile)						
	TDM AM Peak		TDM PM Peak		TDM Off-Peak	
	NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	0.291	0.408	0.251	0.366	0.305	0.423
Rural principal arterial	0.235	0.362	0.231	0.356	0.254	0.382
Rural minor arterial	0.208	0.337	0.202	0.330	0.210	0.340
Rural major collector	0.209	0.338	0.202	0.330	0.209	0.338
Rural minor collector	0.194	0.326	0.196	0.328	0.193	0.324
Rural local	0.219	0.359	0.219	0.359	0.219	0.359
Urban Interstate	0.234	0.363	0.214	0.340	0.266	0.397
Urban freeway	0.211	0.342	0.201	0.330	0.231	0.364
Urban principal arterial	0.195	0.326	0.197	0.331	0.198	0.330
Urban minor arterial	0.186	0.320	0.193	0.331	0.189	0.323
Urban collector	0.183	0.319	0.189	0.329	0.183	0.319
Urban local	0.202	0.342	0.207	0.350	0.204	0.346

2035 Conformity Emission Factors for Wake County (grams/mile)						
	TDM AM Peak		TDM PM Peak		TDM Off-Peak	
	NOX		NOX		NOX	
	IM	Non-IM	IM	Non-IM	IM	Non-IM
Rural Interstate	0.214	0.329	0.188	0.299	0.234	0.350
Rural principal arterial	0.188	0.313	0.185	0.309	0.198	0.324
Rural minor arterial	0.175	0.303	0.171	0.298	0.178	0.307
Rural major collector	0.182	0.310	0.174	0.301	0.179	0.307
Rural minor collector	0.164	0.294	0.165	0.295	0.166	0.295
Rural local	0.184	0.321	0.186	0.325	0.186	0.325
Urban Interstate	0.193	0.320	0.179	0.303	0.209	0.338
Urban freeway	0.176	0.304	0.170	0.297	0.194	0.326
Urban principal arterial	0.166	0.296	0.167	0.298	0.169	0.300
Urban minor arterial	0.160	0.293	0.167	0.304	0.162	0.295
Urban collector	0.160	0.296	0.168	0.309	0.159	0.294
Urban local	0.174	0.313	0.179	0.320	0.176	0.316

NOx Conformity Emission Factors Person County (grams per mile)				
	Non-model Spreadsheet			
	2015	2017	2025	2035
	NOX	NOX	NOX	NOX
	Non-IM	Non-IM	Non-IM	Non-IM
Rural principal arterial	0.908	0.750	0.429	0.339
Rural minor arterial	0.803	0.675	0.406	0.333
Rural major collector	0.793	0.660	0.405	0.336
Rural minor collector	0.744	0.624	0.396	0.334
Rural local	0.776	0.647	0.401	0.334
Urban principal arterial	0.737	0.620	0.402	0.343
Urban minor arterial	0.687	0.583	0.384	0.332
Urban collector	0.663	0.565	0.380	0.334
Urban local	0.705	0.596	0.387	0.332

CO Emission Factors: Wake and Durham Counties

2015 Emission Factors Wake County			2017 Emission Factors Wake County			2025 Emission Factors Wake County			2035 Emission Factors Wake County		
CO			CO			CO			CO		
AM Peak			AM Peak			AM Peak			AM Peak		
Wake	IM	NonIM	Wake	IM	NonIM	Wake	IM	NonIM	Wake	IM	NonIM
Rural Interstate	9.195	11.868	Rural Interstate	8.478	11.126	Rural Interstate	7.118	9.760	Rural Interstate	6.489	8.975
Rural Other Principal Arterial	9.144	11.929	Rural Other Principal Arterial	8.509	11.284	Rural Other Principal Arterial	7.169	9.937	Rural Other Principal Arterial	6.665	9.302
Rural Minor Arterial	8.684	11.387	Rural Minor Arterial	8.071	10.764	Rural Minor Arterial	6.901	9.623	Rural Minor Arterial	6.619	9.282
Rural Major Collector	8.732	11.443	Rural Major Collector	8.117	10.819	Rural Major Collector	6.934	9.663	Rural Major Collector	6.834	9.563
Rural Minor Collector	8.270	10.869	Rural Minor Collector	7.614	10.183	Rural Minor Collector	6.525	9.143	Rural Minor Collector	6.196	8.730
Rural Local	8.186	10.834	Rural Local	7.600	10.236	Rural Local	6.759	9.565	Rural Local	6.357	9.045
Urban Interstate	9.419	12.283	Urban Interstate	8.685	11.522	Urban Interstate	7.371	10.219	Urban Interstate	6.973	9.724
Urban Freeway	9.524	12.450	Urban Freeway	8.713	11.591	Urban Freeway	7.154	9.964	Urban Freeway	6.688	9.378
Urban Other Principle Arterial	8.708	11.437	Urban Other Principle Arterial	7.958	10.637	Urban Other Principle Arterial	6.785	9.491	Urban Other Principle Arterial	6.445	9.072
Urban Minor Arterial	8.486	11.169	Urban Minor Arterial	7.880	10.554	Urban Minor Arterial	6.642	9.318	Urban Minor Arterial	6.300	8.897
Urban Collector	8.566	11.285	Urban Collector	7.889	10.578	Urban Collector	6.698	9.412	Urban Collector	6.341	8.982
Urban Local	8.304	11.008	Urban Local	7.741	10.462	Urban Local	6.696	9.481	Urban Local	6.354	9.058
CO			CO			CO			CO		
PM Peak			PM Peak			PM Peak			PM Peak		
Wake	IM	NonIM	Wake	IM	NonIM	Wake	IM	NonIM	Wake	IM	NonIM
Rural Interstate	8.054	10.473	Rural Interstate	7.147	9.455	Rural Interstate	6.459	8.911	Rural Interstate	5.683	7.896
Rural Other Principal Arterial	8.781	11.473	Rural Other Principal Arterial	8.311	11.034	Rural Other Principal Arterial	7.049	9.780	Rural Other Principal Arterial	6.548	9.148
Rural Minor Arterial	8.558	11.224	Rural Minor Arterial	7.822	10.439	Rural Minor Arterial	6.621	9.245	Rural Minor Arterial	6.388	8.972
Rural Major Collector	8.656	11.346	Rural Major Collector	7.987	10.651	Rural Major Collector	6.601	9.214	Rural Major Collector	6.489	9.103
Rural Minor Collector	8.126	10.683	Rural Minor Collector	7.545	10.092	Rural Minor Collector	6.519	9.143	Rural Minor Collector	6.193	8.730
Rural Local	8.186	10.834	Rural Local	7.600	10.236	Rural Local	6.759	9.565	Rural Local	6.422	9.149
Urban Interstate	8.745	11.441	Urban Interstate	8.132	10.820	Urban Interstate	6.781	9.438	Urban Interstate	6.452	9.033
Freeway & Expressway	8.859	11.612	Freeway & Expressway	8.035	10.720	Freeway & Expressway	6.738	9.409	Freeway & Expressway	6.355	8.931
Urban Other Principle Arterial	8.149	10.721	Urban Other Principle Arterial	7.557	10.127	Urban Other Principle Arterial	6.556	9.217	Urban Other Principle Arterial	6.202	8.762
Urban Minor Arterial	8.249	10.880	Urban Minor Arterial	7.652	10.277	Urban Minor Arterial	6.659	9.395	Urban Minor Arterial	6.316	8.972
Urban Collector	8.330	10.991	Urban Collector	7.719	10.379	Urban Collector	6.714	9.486	Urban Collector	6.411	9.151
Urban Local	8.406	11.172	Urban Local	7.802	10.557	Urban Local	6.807	9.663	Urban Local	6.464	9.237
CO			CO			CO			CO		
Off Peak			Off Peak			Off Peak			Off Peak		
Wake	IM	NonIM	Wake	IM	NonIM	Wake	IM	NonIM	Wake	IM	NonIM
Rural Interstate	9.287	11.978	Rural Interstate	8.569	11.234	Rural Interstate	7.325	10.018	Rural Interstate	6.877	9.465
Rural Other Principal Arterial	9.144	11.929	Rural Other Principal Arterial	8.445	11.204	Rural Other Principal Arterial	7.562	10.445	Rural Other Principal Arterial	6.962	9.692
Rural Minor Arterial	8.761	11.484	Rural Minor Arterial	8.144	10.857	Rural Minor Arterial	7.008	9.766	Rural Minor Arterial	6.735	9.436
Rural Major Collector	8.806	11.537	Rural Major Collector	8.187	10.908	Rural Major Collector	6.934	9.663	Rural Major Collector	6.714	9.404
Rural Minor Collector	8.337	10.955	Rural Minor Collector	7.743	10.352	Rural Minor Collector	6.532	9.142	Rural Minor Collector	6.316	8.892
Rural Local	8.329	11.046	Rural Local	7.733	10.438	Rural Local	6.759	9.565	Rural Local	6.422	9.149
Urban Interstate	9.943	12.920	Urban Interstate	9.179	12.128	Urban Interstate	8.014	11.034	Urban Interstate	7.442	10.324
Freeway & Expressway	9.696	12.662	Freeway & Expressway	9.026	11.982	Freeway & Expressway	7.718	10.704	Freeway & Expressway	7.371	10.276
Urban Other Principle Arterial	8.837	11.603	Urban Other Principle Arterial	8.154	10.893	Urban Other Principle Arterial	6.962	9.728	Urban Other Principle Arterial	6.619	9.307
Urban Minor Arterial	8.691	11.434	Urban Minor Arterial	8.000	10.711	Urban Minor Arterial	6.881	9.641	Urban Minor Arterial	6.481	9.142
Urban Collector	8.696	11.453	Urban Collector	8.018	10.746	Urban Collector	6.832	9.587	Urban Collector	6.483	9.159
Urban Local	8.406	11.172	Urban Local	7.802	10.557	Urban Local	6.749	9.568	Urban Local	6.406	9.144

2015 Conformity Emission Factors Durham County			2017 Conformity Emission Factors Durham County			2025 Conformity Emission Factors Durham County			2035 Conformity Emission Factors Durham County		
	CO			CO			CO			CO	
	AM Peak			AM Peak			AM Peak			AM Peak	
Durham	IM	NonIM	Durham	IM	NonIM	Durham	IM	NonIM	Durham	IM	NonIM
Rural Interstate	9.816	12.530	Rural Interstate	8.804	11.443	Rural Interstate	6.665	9.076	Rural Interstate	6.271	8.539
Rural Other Principal Arterial	8.862	11.434	Rural Other Principal Arterial	8.225	10.789	Rural Other Principal Arterial	6.782	9.296	Rural Other Principal Arterial	6.603	9.058
Rural Minor Arterial	9.822	12.688	Rural Minor Arterial	8.925	11.724	Rural Minor Arterial	7.714	10.585	Rural Minor Arterial	7.825	10.725
Rural Major Collector	9.356	12.092	Rural Major Collector	8.687	11.415	Rural Major Collector	7.280	10.002	Rural Major Collector	6.984	9.602
Rural Minor Collector	9.253	11.976	Rural Minor Collector	8.587	11.301	Rural Minor Collector	7.291	10.036	Rural Minor Collector	7.102	9.781
Rural Local	8.781	11.401	Rural Local	8.145	10.756	Rural Local	7.039	9.738	Rural Local	6.854	9.488
Urban Interstate	10.717	13.758	Urban Interstate	9.976	13.009	Urban Interstate	8.521	11.591	Urban Interstate	8.397	11.417
Urban Freeway	10.000	12.915	Urban Freeway	9.223	12.110	Urban Freeway	8.042	11.022	Urban Freeway	7.846	10.757
Urban Other Principle Arterial	9.209	11.924	Urban Other Principle Arterial	8.546	11.252	Urban Other Principle Arterial	7.432	10.230	Urban Other Principle Arterial	7.241	9.973
Urban Minor Arterial	9.286	12.037	Urban Minor Arterial	8.614	11.356	Urban Minor Arterial	7.368	10.162	Urban Minor Arterial	7.120	9.826
Urban Collector	9.521	12.348	Urban Collector	8.835	11.653	Urban Collector	7.496	10.346	Urban Collector	7.247	10.009
Urban Local	9.283	12.175	Urban Local	8.608	11.488	Urban Local	7.407	10.356	Urban Local	7.215	10.093
	CO			CO			CO			CO	
	PM Peak			PM Peak			PM Peak			PM Peak	
Durham	IM	NonIM	Durham	IM	NonIM	Durham	IM	NonIM	Durham	IM	NonIM
Rural Interstate	9.075	11.636	Rural Interstate	8.118	10.588	Rural Interstate	6.389	8.694	Rural Interstate	6.230	8.481
Rural Other Principal Arterial	8.679	11.196	Rural Other Principal Arterial	8.053	10.562	Rural Other Principal Arterial	6.779	9.298	Rural Other Principal Arterial	6.600	9.060
Rural Minor Arterial	9.465	12.235	Rural Minor Arterial	8.658	11.380	Rural Minor Arterial	7.527	10.337	Rural Minor Arterial	7.632	10.473
Rural Major Collector	9.164	11.845	Rural Major Collector	8.505	11.178	Rural Major Collector	7.007	9.631	Rural Major Collector	6.761	9.307
Rural Minor Collector	9.253	11.976	Rural Minor Collector	8.587	11.301	Rural Minor Collector	7.291	10.036	Rural Minor Collector	7.102	9.781
Rural Local	8.815	11.458	Rural Local	8.176	10.809	Rural Local	7.096	9.847	Rural Local	6.854	9.488
Urban Interstate	10.190	13.119	Urban Interstate	9.397	12.299	Urban Interstate	7.994	10.928	Urban Interstate	7.951	10.858
Freeway & Expressway	9.491	12.271	Freeway & Expressway	8.741	11.490	Freeway & Expressway	7.547	10.367	Freeway & Expressway	7.356	10.110
Urban Other Principle Arterial	8.865	11.488	Urban Other Principle Arterial	8.222	10.836	Urban Other Principle Arterial	7.147	9.845	Urban Other Principle Arterial	6.960	9.593
Urban Minor Arterial	8.996	11.668	Urban Minor Arterial	8.342	11.005	Urban Minor Arterial	7.175	9.911	Urban Minor Arterial	6.982	9.655
Urban Collector	9.166	11.892	Urban Collector	8.501	11.218	Urban Collector	7.247	10.016	Urban Collector	7.051	9.756
Urban Local	9.283	12.175	Urban Local	8.608	11.488	Urban Local	7.477	10.470	Urban Local	7.283	10.205
	CO			CO			CO			CO	
	Off Peak			Off Peak			Off Peak			Off Peak	
Durham	IM	NonIM	Durham	IM	NonIM	Durham	IM	NonIM	Durham	IM	NonIM
Rural Interstate	10.085	12.849	Rural Interstate	9.393	12.149	Rural Interstate	8.184	11.008	Rural Interstate	7.994	10.756
Rural Other Principal Arterial	9.056	11.684	Rural Other Principal Arterial	8.350	10.951	Rural Other Principal Arterial	7.210	9.878	Rural Other Principal Arterial	6.973	9.559
Rural Minor Arterial	10.112	13.053	Rural Minor Arterial	9.398	12.330	Rural Minor Arterial	8.139	11.145	Rural Minor Arterial	7.941	10.879
Rural Major Collector	9.433	12.190	Rural Major Collector	8.759	11.508	Rural Major Collector	7.397	10.158	Rural Major Collector	7.153	9.829
Rural Minor Collector	9.325	12.069	Rural Minor Collector	8.655	11.390	Rural Minor Collector	7.291	10.036	Rural Minor Collector	7.102	9.781
Rural Local	8.815	11.458	Rural Local	8.176	10.809	Rural Local	7.066	9.790	Rural Local	6.911	9.594
Urban Interstate	10.802	13.860	Urban Interstate	9.976	13.009	Urban Interstate	8.599	11.688	Urban Interstate	8.397	11.417
Freeway & Expressway	9.926	12.822	Freeway & Expressway	9.223	12.110	Freeway & Expressway	8.042	11.022	Freeway & Expressway	7.846	10.757
Urban Other Principle Arterial	9.209	11.924	Urban Other Principle Arterial	8.489	11.177	Urban Other Principle Arterial	7.432	10.230	Urban Other Principle Arterial	7.177	9.887
Urban Minor Arterial	9.221	11.952	Urban Minor Arterial	8.614	11.356	Urban Minor Arterial	7.310	10.084	Urban Minor Arterial	7.120	9.826
Urban Collector	9.441	12.246	Urban Collector	8.835	11.653	Urban Collector	7.496	10.346	Urban Collector	7.247	10.009
Urban Local	9.283	12.175	Urban Local	8.608	11.488	Urban Local	7.477	10.470	Urban Local	7.283	10.205