

Measuring induced travel elasticities associated with local roads from trip generation

Supplemental tables

Table S1. New Jersey Rural local roads: VKT, lane miles and implied elasticity assuming 2, 5, and 10 trips generated per household, 2022 data, by county (new lane-km = 4.32 km).

County	Lane-kms	Annual VKT (1000)	Implied elasticity (2 trips/day, new VKT=57,816)	Implied elasticity (5 trips/day, new VKT=144,540)	Implied elasticity (10 trips/day, new VKT=289,080)
Atlantic	576	129,461	0.060	0.149	0.298
Bergen	0	0	NA	NA	NA
Burlington	501	112,568	0.060	0.149	0.298
Camden	29	6,473	0.060	0.150	0.299
Cape May	172	38,534	0.060	0.150	0.299
Cumberland	536	120,270	0.060	0.149	0.298
Essex	0	0	NA	NA	NA
Gloucester	95	20,921	0.061	0.152	0.304
Hudson	0	0	NA	NA	NA
Hunterdon	1,030	231,558	0.060	0.149	0.298
Mercer	90	20,416	0.059	0.148	0.295
Middlesex	26	5,862	0.059	0.147	0.294
Monmouth	269	60,516	0.059	0.149	0.297
Morris	156	34,998	0.060	0.149	0.298
Ocean	150	33,712	0.059	0.149	0.297
Passaic	0	0	NA	NA	NA
Salem	607	136,483	0.059	0.149	0.297
Somerset	117	26,350	0.060	0.149	0.298
Sussex	837	187,943	0.060	0.149	0.298
Union	0	0	NA	NA	NA
Warren	761	170,882	0.060	0.149	0.298

VKT and lane-km data source: <https://www.nj.gov/transportation/refdata/roadway/vmt.shtm>. 2022 data. Bergen, Essex, Hudson, Passaic, and Union counties have no roads classified as urban.

Table S2. Maryland Rural local roads: VKT, lane miles and implied elasticity assuming 2, 5, and 10 trips generated per household, 2022 data, by county (new lane-km = 4.32 km).

County	Lane-kms	Annual VKT (1000)	Implied elasticity (2 trips/day, new VKT=57,816)	Implied elasticity (5 trips/day, new VKT=144,540)	Implied elasticity (10 trips/day, new VKT=289,080)
Allegany	1,095	86,904	0.169	0.421	0.843
Anne Arundel	428	114,263	0.050	0.125	0.251
Baltimore City	20	0	NA	NA	NA
Baltimore County	1,228	186,683	0.088	0.220	0.440
Calvert	670	16,093	0.557	1.394	2.787
Caroline	1,462	107,826	0.182	0.454	0.908
Carroll	1,654	120,701	0.183	0.458	0.917
Cecil	1,087	140,013	0.104	0.260	0.519
Charles	1,263	91,732	0.184	0.461	0.922
Dorchester	1,442	72,420	0.266	0.666	1.332
Frederick	2,209	271,978	0.109	0.272	0.543
Garrett	1,905	143,231	0.178	0.445	0.890
Harford	1,158	136,794	0.113	0.283	0.566
Howard	720	186,683	0.052	0.129	0.258
Kent	924	45,062	0.274	0.686	1.372
Montgomery	633	78,858	0.107	0.269	0.537
Prince George's	372	45,062	0.110	0.276	0.552
Queen Anne's	1,437	177,027	0.109	0.272	0.543
Somerset	931	53,108	0.235	0.587	1.173
St. Mary's	1,556	160,934	0.129	0.324	0.647
Talbot	1,063	123,919	0.115	0.287	0.574
Washington	1,577	236,573	0.089	0.223	0.446
Wicomico	1,216	82,076	0.198	0.496	0.992
Worcester	1,414	127,138	0.149	0.372	0.744

VKT and lane-km data source: <https://roads.maryland.gov/mdotsha/Pages/index.aspx?PageId=30>. 2023 data. Baltimore City has no roads classified as rural.

Table S3. New Jersey Urban local roads: VKT, lane miles and implied elasticity assuming 2, 5, and 10 trips generated per household, 2022 data, by county (new lane-km = 4.32 km).

County	Lane-kms	Annual VKT (1000)	Implied elasticity (2 trips/day, new VKT=57,816)	Implied elasticity (5 trips/day, new VKT=144,540)	Implied elasticity (10 trips/day, new VKT=289,080)
Atlantic	1,584	463,491	0.046	0.114	0.229
Bergen	3,446	1,850,746	0.025	0.062	0.125
Burlington	2,625	955,950	0.037	0.092	0.184
Camden	2,319	843,296	0.037	0.092	0.184
Cape May	1,027	355,665	0.039	0.097	0.193
Cumberland	879	294,510	0.040	0.100	0.200
Essex	1,854	997,793	0.025	0.062	0.124
Gloucester	1,120	659,831	0.037	0.091	0.183
Hudson	636	342,790	0.025	0.062	0.124
Hunterdon	674	284,854	0.032	0.079	0.158
Mercer	1,510	469,928	0.043	0.107	0.215
Middlesex	2,881	1,549,798	0.025	0.062	0.124
Monmouth	3,833	2,059,960	0.025	0.062	0.125
Morris	2,844	1,530,486	0.025	0.062	0.124
Ocean	3,626	1,947,306	0.025	0.062	0.125
Passaic	1,482	798,235	0.025	0.062	0.124
Salem	356	129,230	0.037	0.092	0.184
Somerset	2,008	1,079,870	0.025	0.062	0.124
Sussex	764	323,478	0.032	0.079	0.158
Union	1,675	901,233	0.025	0.062	0.124
Warren	528	127,621	0.055	0.138	0.277

VKT and lane-km data source: <https://www.nj.gov/transportation/refdata/roadway/vmt.shtm>. 2022 data.

Table S4. Maryland Urban local roads: VKT, lane miles and implied elasticity assuming 2, 5, and 10 trips generated per household, 2023 data, by county (new lane-km = 4.32 km).

County	Lane-kms	Annual VKT (1000)	Implied elasticity (2 trips/day, new VKT=57,816)	Implied elasticity (5 trips/day, new VKT=144,540)	Implied elasticity (10 trips/day, new VKT=289,080)
Allegany	941	57,936	0.217	0.543	1.087
Anne Arundel	4,884	626,033	0.104	0.261	0.522
Baltimore City	2,744	374,976	0.098	0.245	0.490
Baltimore County	5,505	860,997	0.086	0.214	0.428
Calvert	1,045	80,467	0.174	0.435	0.869
Caroline	0	0	NA	NA	NA
Carroll	1,499	93,342	0.215	0.537	1.075
Cecil	851	91,732	0.124	0.310	0.621
Charles	1,168	107,826	0.145	0.362	0.725
Dorchester	228	11,265	0.271	0.678	1.356
Frederick	2,218	252,666	0.117	0.294	0.587
Garrett	9	0	NA	NA	NA
Harford	2,098	226,917	0.124	0.309	0.619
Howard	2,212	387,851	0.076	0.191	0.382
Kent	74	3,219	0.308	0.769	1.538
Montgomery	6,681	796,623	0.112	0.281	0.561
Prince George's	6,477	1,004,228	0.086	0.216	0.432
Queen Anne's	271	40,234	0.090	0.225	0.450
Somerset	92	8,047	0.153	0.382	0.764
St. Mary's	428	35,405	0.162	0.404	0.809
Talbot	292	22,531	0.173	0.433	0.866
Washington	1,289	140,013	0.123	0.308	0.616
Wicomico	1,135	77,248	0.197	0.492	0.984
Worcester	650	49,890	0.174	0.436	0.872

VKT and lane-km data source: <https://roads.maryland.gov/mdotsha/Pages/index.aspx?PageId=30>. 2023 data. Caroline and Garrett counties have no roads classified as urban; Garrett shows 9 km of urban local roads in data but no associated VKT.