

# NATIONAL HIGHWAY SYSTEM LENGTH - 2001

## MILES BY MEASURED PAVEMENT ROUGHNESS - RURAL

TABLE HM-47  
SHEET 1 OF 4

JUNE 2004

STATE	INTERNATIONAL ROUGHNESS INDEX (IRI) 1/																			
	INTERSTATE SYSTEM										OTHER									
	NOT REPORTED 2/	< 60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	TOTAL REPORTED	NOT REPORTED 2/	< 60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	TOTAL REPORTED
Alabama	-	259	258	44	30	12	-	-	-	603	7	464	1,197	310	41	7	2	-	-	2,021
Alaska	-	10	146	299	278	266	31	-	-	1,030	462	-	141	93	63	101	78	13	7	496
Arizona	-	867	114	15	-	-	-	-	-	996	17	347	438	180	82	64	5	4	1	1,121
Arkansas	9	4	147	64	44	67	60	38	35	459	79	9	561	559	287	174	78	38	11	1,717
California	-	55	551	369	136	143	51	31	22	1,358	7	51	1,055	1,090	851	438	119	50	22	3,676
Colorado	-	68	487	175	37	-	-	1	-	768	-	163	873	471	148	120	35	25	7	1,842
Connecticut	-	3	76	16	2	4	-	-	-	101	-	-	66	76	67	25	14	2	2	252
Delaware	-	-	-	-	-	-	-	-	-	-	10	4	77	85	21	2	3	3	1	196
District of Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Florida	-	787	99	2	36	27	-	-	-	951	1	828	664	194	70	22	6	-	1	1,785
Georgia	-	554	211	37	4	-	-	-	-	806	-	1,849	648	23	3	4	1	-	-	2,528
Hawaii	-	-	-	-	6	-	-	-	-	6	7	-	17	53	30	40	15	-	3	158
Idaho	-	216	221	76	4	1	4	3	1	526	-	263	852	338	155	43	8	1	1	1,661
Illinois	-	123	807	312	226	39	6	-	2	1,515	-	84	685	505	331	153	60	21	3	1,842
Indiana	-	366	374	75	32	5	-	-	-	852	6	397	480	187	141	65	18	3	-	1,291
Iowa	1	65	290	183	58	38	-	-	-	634	3	226	851	365	267	186	99	34	10	2,038
Kansas	-	232	378	70	14	-	-	-	-	694	-	567	1,468	407	127	32	11	4	-	2,627
Kentucky	1	263	126	37	72	33	-	-	-	531	-	369	871	272	147	47	14	1	-	1,721
Louisiana	54	100	198	103	73	49	35	-	-	558	22	73	420	190	204	148	83	27	35	1,180
Maine	-	24	259	23	6	1	-	-	-	313	-	37	462	195	78	9	4	-	-	787
Maryland	1	20	162	34	9	1	1	-	-	227	10	59	322	111	34	13	4	4	3	550
Massachusetts	-	-	71	58	9	25	-	-	-	163	-	1	46	128	72	41	22	9	5	324
Michigan	-	9	231	163	158	102	58	13	5	739	-	153	844	577	292	235	94	39	83	2,317
Minnesota	-	138	373	156	11	3	-	-	-	681	-	768	1,224	383	161	26	14	4	2	2,582
Mississippi	-	92	239	101	59	45	12	8	-	556	-	138	757	416	209	78	32	22	3	1,655
Missouri	-	3	248	275	194	77	10	-	-	807	1	-	446	658	782	388	154	85	78	2,591
Montana	-	303	626	116	54	20	15	-	1	1,135	7	242	1,717	454	119	65	6	9	3	2,615
Nebraska	-	230	57	63	47	30	10	-	-	437	-	399	804	427	244	199	77	75	27	2,252
Nevada	-	398	48	23	11	-	-	-	-	480	-	1,114	315	10	1	1	-	-	-	1,441
New Hampshire	-	25	149	3	-	-	-	-	-	177	-	11	256	124	28	17	-	-	7	460
New Jersey	-	2	55	27	8	7	10	6	4	119	10	3	225	161	73	54	10	3	4	533
New Mexico	-	563	294	28	6	-	1	-	-	892	-	763	661	142	96	42	20	26	3	1,753
New York	15	116	542	110	49	55	26	27	6	931	22	133	1,157	292	107	49	15	19	26	1,798
North Carolina	-	74	301	131	55	71	6	12	1	651	-	76	1,153	464	295	149	68	24	8	2,237
North Dakota	-	142	295	75	19	-	-	-	-	531	-	202	1,057	518	223	80	4	5	-	2,089
Ohio	-	500	270	42	12	3	-	-	2	829	-	491	1,040	228	72	18	4	3	2	1,858
Oklahoma	7	172	283	143	73	39	2	-	1	713	8	162	835	483	308	168	104	24	32	2,116
Oregon	-	9	189	307	71	4	-	-	-	580	147	10	489	1,179	692	125	34	6	3	2,538
Pennsylvania	4	192	671	228	69	23	9	8	4	1,204	7	168	901	587	330	161	55	29	16	2,247
Rhode Island	-	-	16	5	-	-	-	-	-	21	-	-	9	26	18	5	6	1	1	66
South Carolina	-	253	287	89	39	2	-	-	-	670	-	87	865	262	63	22	9	3	4	1,315
South Dakota	-	29	344	161	54	39	1	-	1	629	56	53	533	480	414	323	162	92	84	2,141
Tennessee	-	534	193	6	1	1	-	-	-	735	2	596	744	107	38	22	7	1	1	1,516
Texas	-	290	1,401	350	143	21	2	2	4	2,213	6	349	3,231	2,064	700	155	14	15	4	6,532
Utah	16	147	301	127	74	73	22	8	4	756	33	46	417	260	162	75	13	4	4	981
Vermont	-	77	129	48	10	13	-	4	-	281	-	1	153	61	38	30	15	13	7	318
Virginia	-	71	600	51	3	5	-	-	-	730	-	17	687	431	188	92	46	17	23	1,501
Washington	-	162	206	90	38	5	-	-	-	501	11	257	1,081	482	187	78	9	4	4	2,102
West Virginia	-	98	237	33	56	23	2	6	-	455	-	131	435	296	131	41	20	13	11	1,078
Wisconsin	1	108	326	99	22	26	-	-	-	581	-	625	1,133	508	257	91	47	17	15	2,693
Wyoming	-	385	367	38	29	7	-	-	-	826	-	-	833	115	9	16	5	-	-	1,958
U.S. Total	109	9,138	14,253	5,080	2,441	1,405	374	167	93	32,951	941	13,716	36,246	18,027	9,456	4,539	1,740	801	571	85,096
Puerto Rico	-	-	6	21	51	16	5	2	1	102	2	-	-	10	14	17	7	2	-	50
GRAND TOTAL	109	9,138	14,259	5,101	2,492	1,421	379	169	94	33,053	943	13,716	36,246	18,037	9,470	4,556	1,747	803	571	85,146

# NATIONAL HIGHWAY SYSTEM LENGTH - 2001

## MILES BY MEASURED PAVEMENT ROUGHNESS - RURAL

TABLE HM-47  
SHEET 2 OF 4

JUNE 2004

STATE	INTERNATIONAL ROUGHNESS INDEX (IRI) 1/									
	TOTAL RURAL NHS									
	NOT REPORTED 2/	< 60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	TOTAL REPORTED
Alabama	7	723	1,455	354	70	19	2	-	-	2,623
Alaska	462	10	287	392	341	367	109	13	7	1,526
Arizona	17	1,214	552	195	82	64	5	4	1	2,117
Arkansas	88	12	709	622	330	241	138	76	46	2,174
California	7	106	1,606	1,459	987	582	170	81	44	5,035
Colorado	-	231	1,360	647	185	120	35	26	7	2,611
Connecticut	-	3	142	92	69	29	14	2	3	354
Delaware	10	4	77	85	21	2	3	3	1	196
District of Columbia	-	-	-	-	-	-	-	-	-	-
Florida	1	1,615	762	196	106	50	6	-	1	2,736
Georgia	-	2,403	858	61	7	4	1	-	-	3,334
Hawaii	7	-	17	53	36	40	15	-	3	164
Idaho	-	479	1,073	415	160	44	12	4	2	2,189
Illinois	-	207	1,492	816	557	192	66	21	5	3,356
Indiana	6	763	854	262	173	70	18	3	-	2,143
Iowa	4	290	1,141	548	325	224	99	34	10	2,671
Kansas	-	799	1,846	477	140	32	11	11	4	3,320
Kentucky	2	632	997	309	219	80	14	1	-	2,252
Louisiana	76	173	618	292	277	197	118	27	35	1,737
Maine	-	61	721	218	84	9	4	2	-	1,099
Maryland	11	78	484	145	43	15	5	4	4	778
Massachusetts	-	1	116	186	81	66	22	9	5	486
Michigan	-	162	1,075	740	451	337	152	52	88	3,057
Minnesota	-	906	1,596	539	172	29	15	4	2	3,263
Mississippi	-	231	996	517	268	123	44	30	3	2,212
Missouri	1	3	694	933	976	465	164	85	78	3,398
Montana	7	545	2,343	570	173	85	21	9	4	3,750
Nebraska	-	629	861	489	292	229	87	75	27	2,689
Nevada	-	1,512	362	33	11	1	-	-	-	1,919
New Hampshire	-	36	404	127	28	17	17	-	7	636
New Jersey	10	6	280	189	81	61	19	9	7	652
New Mexico	-	1,327	955	169	102	42	20	26	3	2,644
New York	37	249	1,699	403	157	104	41	46	32	2,731
North Carolina	-	149	1,454	595	350	220	74	36	9	2,887
North Dakota	-	344	1,352	592	242	80	4	5	-	2,619
Ohio	-	992	1,310	271	84	21	4	3	4	2,689
Oklahoma	16	334	1,118	626	381	207	107	24	33	2,830
Oregon	147	19	678	1,486	763	129	34	6	3	3,118
Pennsylvania	11	360	1,572	814	398	184	64	36	19	3,447
Rhode Island	-	-	25	31	18	5	6	1	1	87
South Carolina	-	340	1,152	351	103	24	10	3	4	1,987
South Dakota	56	82	877	641	468	362	163	92	85	2,770
Tennessee	2	1,130	938	112	39	23	8	1	1	2,252
Texas	6	639	4,632	2,414	843	176	16	17	7	8,744
Utah	49	193	717	387	236	148	35	12	8	1,736
Vermont	-	78	282	109	47	42	15	16	7	596
Virginia	-	88	1,287	482	191	97	46	17	23	2,231
Washington	11	419	1,287	572	225	82	9	4	4	2,602
West Virginia	-	229	672	329	187	64	23	19	11	1,534
Wisconsin	1	733	1,459	607	279	117	47	17	15	3,274
Wyoming	-	1,315	1,250	153	38	24	5	-	-	2,785
U.S. Total	1,052	22,854	50,494	23,105	11,896	5,945	2,117	966	663	118,040
Puerto Rico	2	-	6	32	65	33	12	4	1	153
GRAND TOTAL	1,054	22,854	50,500	23,137	11,961	5,978	2,129	970	664	118,193

# NATIONAL HIGHWAY SYSTEM LENGTH - 2001

## MILES BY MEASURED PAVEMENT ROUGHNESS - URBAN

TABLE HM-47  
SHEET 3 OF 4

JUNE 2004

STATE	INTERNATIONAL ROUGHNESS INDEX (IRI) 1/																			
	INTERSTATE SYSTEM										OTHER									
	NOT REPORTED 2/	<60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	TOTAL REPORTED	NOT REPORTED 2/	<60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	TOTAL REPORTED
Alabama	-	75	120	41	33	30	3	-	-	302	16	216	346	89	36	7	3	1	4	702
Alaska	-	12	22	7	3	7	1	-	-	52	-	7	10	21	18	7	5	2	2	72
Arizona	-	87	47	29	9	-	-	-	-	172	138	26	135	61	35	12	3	-	-	272
Arkansas	-	-	36	43	33	30	22	15	9	188	37	1	31	55	31	40	17	13	18	206
California	2	30	180	169	225	250	132	77	33	1,096	5	3	203	281	357	299	132	91	115	1,481
Colorado	-	14	90	37	33	10	-	-	-	184	-	23	164	179	93	59	19	60	26	623
Connecticut	-	6	100	85	29	10	7	4	5	246	-	8	76	110	56	45	31	14	25	365
Delaware	1	-	7	11	7	3	6	2	3	39	4	4	24	24	7	2	1	1	2	65
District of Columbia	-	10	1	2	2	1	-	-	-	16	-	1	7	2	3	6	6	7	36	68
Florida	8	263	190	32	15	12	-	-	-	512	6	362	494	97	61	27	11	10	12	1,074
Georgia	1	299	122	15	2	-	-	-	-	438	-	452	310	48	16	6	1	3	1	837
Hawaii	-	-	7	3	10	10	10	5	4	49	12	-	14	21	25	24	13	7	9	113
Idaho	-	29	35	10	3	5	2	2	-	86	-	13	26	18	11	11	5	6	6	96
Illinois	1	20	226	211	126	30	39	2	-	654	-	42	423	321	260	257	129	109	144	1,685
Indiana	-	62	149	59	34	9	4	-	1	318	17	33	105	81	43	44	28	11	16	361
Iowa	-	4	44	35	30	16	12	-	5	146	25	13	99	69	39	43	28	16	27	334
Kansas	1	12	65	61	27	13	1	-	1	180	6	18	87	42	38	19	16	7	14	241
Kentucky	-	88	84	22	28	-	5	3	-	230	-	19	168	109	37	36	9	9	5	392
Louisiana	55	19	67	55	48	36	8	2	2	237	15	16	102	54	60	69	52	44	85	482
Maine	1	-	44	8	1	-	-	-	-	53	2	1	49	34	23	18	5	3	-	133
Maryland	9	9	117	64	20	13	7	7	6	243	9	29	138	77	47	34	22	19	24	390
Massachusetts	-	2	201	122	36	32	8	2	1	404	14	1	70	153	197	231	172	117	118	1,059
Michigan	1	5	108	146	93	58	39	17	34	500	-	3	130	151	171	183	157	105	271	1,171
Minnesota	-	34	123	44	20	10	2	-	-	233	-	70	187	102	66	21	8	4	10	468
Mississippi	-	3	28	41	41	10	2	3	-	128	-	24	78	51	53	29	8	8	17	268
Missouri	-	-	88	109	69	51	21	21	14	373	23	-	14	55	127	78	55	81	176	586
Montana	-	1	28	11	8	4	2	1	-	55	-	1	13	15	11	8	4	5	5	62
Nebraska	-	4	18	4	11	4	3	1	-	45	12	4	11	25	41	38	30	29	52	230
Nevada	-	30	15	12	6	15	2	-	-	80	-	48	55	12	8	2	1	1	2	129
New Hampshire	-	12	29	7	-	-	-	-	-	48	-	8	75	13	10	3	-	-	6	115
New Jersey	14	1	80	99	30	39	26	14	10	299	52	2	213	295	240	102	55	31	104	1,042
New Mexico	-	36	42	15	7	1	5	1	-	107	8	21	51	44	27	18	8	4	16	189
New York	19	50	317	118	63	51	30	32	48	709	75	34	366	271	224	182	113	86	298	1,574
North Carolina	-	4	199	77	46	22	3	11	7	369	-	3	179	122	77	68	28	12	10	499
North Dakota	-	10	22	7	1	-	-	-	-	40	-	-	19	17	14	9	3	2	-	64
Ohio	-	310	334	68	17	7	4	2	2	744	-	143	342	175	115	76	29	25	32	937
Oklahoma	2	12	61	31	33	18	20	16	15	206	2	24	86	47	49	32	24	12	8	282
Oregon	1	-	27	66	40	10	1	-	-	144	11	3	37	106	87	49	18	11	17	328
Pennsylvania	23	36	246	145	58	20	13	8	3	529	22	47	302	321	267	229	125	67	60	1,418
Rhode Island	-	-	28	15	5	-	1	-	-	49	-	-	27	42	30	17	9	2	5	132
South Carolina	-	48	79	18	9	3	1	-	-	158	-	10	164	124	62	54	22	12	30	478
South Dakota	-	1	18	12	14	4	-	-	-	49	42	-	2	1	6	5	-	4	-	18
Tennessee	-	136	131	40	19	6	6	1	-	339	22	112	299	94	53	32	8	8	10	616
Texas	-	34	344	299	204	105	31	4	-	1,021	178	86	755	903	690	421	211	123	223	3,412
Utah	11	17	38	42	33	15	7	4	-	156	26	16	74	47	24	10	9	5	11	196
Vermont	-	5	22	4	2	7	1	-	-	41	-	-	11	13	11	6	6	2	5	54
Virginia	1	7	141	122	80	25	7	2	2	386	57	-	167	233	158	95	47	48	47	795
Washington	1	65	95	39	21	28	9	3	3	263	124	42	171	101	66	41	20	11	14	466
West Virginia	-	23	49	8	5	4	4	1	-	94	-	10	44	25	13	13	6	2	4	117
Wisconsin	4	23	67	36	15	17	-	-	-	158	1	29	144	139	146	110	72	58	83	781
Wyoming	-	30	26	21	5	2	3	-	1	88	-	35	27	9	4	2	1	1	-	79
U.S. Total	156	1,978	4,757	2,777	1,709	1,053	510	263	209	13,256	961	2,063	7,124	5,499	4,343	3,229	1,785	1,309	2,205	27,557
Puerto Rico	1	-	1	34	59	28	12	7	5	146	5	-	-	21	11	26	18	11	6	93
GRAND TOTAL	157	1,978	4,758	2,811	1,768	1,081	522	270	214	13,402	966	2,063	7,124	5,520	4,354	3,255	1,803	1,320	2,211	27,650

# NATIONAL HIGHWAY SYSTEM LENGTH - 2001

## MILES BY MEASURED PAVEMENT ROUGHNESS - URBAN

JUNE 2004

TABLE HM-47  
SHEET 4 OF 4

STATE	INTERNATIONAL ROUGHNESS INDEX (IRI) 1/									
	TOTAL URBAN NHS									
	NOT REPORTED 2/	< 60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	TOTAL REPORTED
Alabama	16	291	466	130	69	37	6	1	4	1,004
Alaska	-	19	32	29	21	14	6	2	2	125
Arizona	138	112	182	90	44	12	3	-	-	443
Arkansas	37	1	67	98	64	70	39	28	27	394
California	6	33	382	450	582	549	264	168	148	2,576
Colorado	-	37	254	217	126	69	19	60	26	808
Connecticut	-	13	176	195	85	55	38	17	30	609
Delaware	5	4	32	35	14	5	6	3	5	104
District of Columbia	1	11	8	4	5	6	6	7	36	83
Florida	14	625	685	129	77	39	11	10	12	1,588
Georgia	1	751	432	63	18	6	1	3	1	1,275
Hawaii	12	-	20	25	35	34	23	12	13	162
Idaho	-	41	62	27	14	16	7	8	6	181
Illinois	1	62	649	531	386	287	167	111	144	2,337
Indiana	17	95	254	140	77	52	32	11	16	677
Iowa	25	17	143	105	69	59	40	16	31	480
Kansas	7	30	151	103	65	33	17	7	15	421
Kentucky	-	107	252	131	65	36	13	12	5	621
Louisiana	70	35	169	109	108	105	60	46	87	719
Maine	3	1	93	42	23	18	5	3	-	185
Maryland	19	38	255	141	68	46	29	26	29	632
Massachusetts	14	4	270	274	233	263	181	119	120	1,464
Michigan	1	7	238	297	265	241	195	122	305	1,670
Minnesota	-	104	310	146	85	31	10	4	11	701
Mississippi	-	27	107	92	93	38	11	12	17	397
Missouri	23	-	102	165	196	129	76	102	189	959
Montana	-	2	41	26	19	12	7	5	5	117
Nebraska	12	8	29	30	52	42	33	30	52	276
Nevada	-	78	70	23	14	17	3	1	2	208
New Hampshire	-	20	104	20	10	3	-	-	6	163
New Jersey	66	4	293	394	270	141	81	45	114	1,342
New Mexico	8	57	93	60	34	19	13	5	16	297
New York	93	84	683	388	287	234	143	118	346	2,283
North Carolina	-	7	378	199	122	90	31	23	17	867
North Dakota	-	10	41	24	15	9	3	2	-	104
Ohio	-	453	675	243	132	83	33	27	34	1,680
Oklahoma	4	37	147	78	82	51	44	28	23	490
Oregon	12	3	65	172	127	59	19	12	17	474
Pennsylvania	45	83	548	465	324	249	138	75	63	1,945
Rhode Island	-	-	56	57	35	17	10	2	6	183
South Carolina	-	58	243	141	71	57	23	12	30	635
South Dakota	42	1	20	13	20	8	-	4	-	66
Tennessee	22	247	430	134	71	38	14	9	10	953
Texas	178	120	1,098	1,203	894	526	242	127	223	4,433
Utah	37	33	112	89	57	25	16	10	11	353
Vermont	-	5	33	17	13	13	6	2	5	94
Virginia	58	7	307	355	238	120	55	50	49	1,181
Washington	124	106	266	140	88	69	29	14	17	729
West Virginia	-	34	93	33	18	17	10	3	5	213
Wisconsin	5	52	211	176	161	128	72	58	83	941
Wyoming	-	65	53	30	9	4	4	1	1	167
<b>U.S. Total</b>	<b>1,116</b>	<b>4,039</b>	<b>11,880</b>	<b>8,278</b>	<b>6,050</b>	<b>4,281</b>	<b>2,294</b>	<b>1,573</b>	<b>2,414</b>	<b>40,809</b>
Puerto Rico	5	-	1	56	70	54	30	18	11	240
<b>GRAND TOTAL</b>	<b>1,121</b>	<b>4,039</b>	<b>11,881</b>	<b>8,334</b>	<b>6,120</b>	<b>4,335</b>	<b>2,324</b>	<b>1,591</b>	<b>2,425</b>	<b>41,049</b>

For footnotes, see Footnotes Page.

# NATIONAL HIGHWAY SYSTEM LENGTH - 2001

## MILES BY MEASURED PAVEMENT ROUGHNESS

HM-47 Footnotes Page:

1/ Data are reported as the International Roughness Index (IRI) in inches per mile. Reference: World Bank Technical Paper Number 46, 1986. Lower IRI represents smoother riding roadways. To obtain a comprehensive assessment of pavement condition, additional measures of pavement distress are needed.

2/ May include sections entirely on structures and unpaved miles.