

NATIONAL HIGHWAY SYSTEM LENGTH - 2004 MILES BY MEASURED PAVEMENT ROUGHNESS - RURAL

TABLE HM-47
SHEET 1 OF 4

OCTOBER 2005

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	-	38	380	59	27	12	32	16	17	581	-	226	1,011	498	242	60	17	9	18	2,081
Alaska	-	10	303	288	219	171	21	-	-	1,012	162	19	164	120	102	159	112	4	112	792
Arizona	-	744	217	15	5	-	-	-	-	981	10	522	346	152	43	32	7	-	-	1,102
Arkansas	5	199	181	32	14	13	17	4	2	462	27	21	654	650	282	109	44	16	6	1,782
California	-	211	511	255	228	45	46	35	16	1,347	3	209	1,829	945	356	221	46	27	4	3,637
Colorado	-	79	271	194	108	20	14	-	-	686	-	57	722	353	279	135	268	32	19	1,865
Connecticut	-	1	33	7	1	1	-	-	-	43	-	4	48	45	33	21	4	1	1	157
Delaware	-	-	-	-	-	-	-	-	-	-	-	4	82	55	14	1	-	-	-	156
Dist. of Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Florida	14	511	222	3	-	-	-	-	-	736	3	665	743	90	9	5	-	-	-	1,512
Georgia	-	433	264	18	7	-	-	-	-	722	-	1,159	865	131	15	6	3	-	-	2,179
Hawaii	-	-	-	-	1	5	-	-	-	6	-	-	35	53	53	9	12	1	-	163
Idaho	-	46	333	97	39	4	-	2	-	521	-	44	986	327	236	41	6	2	1	1,643
Illinois	-	338	715	290	99	42	-	-	3	1,487	-	42	654	433	319	212	80	46	17	1,803
Indiana 3/	-	149	542	114	33	15	-	-	-	853	1	241	590	266	112	78	31	9	1	1,328
Iowa	-	76	284	158	70	29	6	3	2	628	38	222	703	492	241	157	86	44	43	1,988
Kansas	10	29	526	79	20	17	-	-	-	671	55	298	1,768	466	32	9	5	2	2	2,582
Kentucky	1	299	132	57	59	5	-	-	-	552	-	396	1,003	244	75	23	-	1	-	1,742
Louisiana	56	143	155	120	62	27	13	8	-	528	34	102	396	233	146	94	78	41	26	1,116
Maine	-	91	175	37	9	-	1	-	-	313	-	83	401	168	61	28	25	12	12	790
Maryland	1	12	135	24	6	1	4	1	-	183	8	83	208	72	51	11	9	11	9	454
Massachusetts	-	38	6	28	2	16	-	-	-	90	-	-	43	70	30	14	3	1	3	164
Michigan	-	48	209	137	116	57	29	11	7	614	-	524	861	381	171	153	44	12	7	2,153
Minnesota	-	73	316	162	101	27	4	-	-	683	-	707	1,005	549	249	43	11	1	1	2,566
Mississippi	-	58	362	38	17	1	-	5	-	481	-	196	860	287	208	86	14	21	51	1,723
Missouri	-	82	234	243	133	82	25	2	1	802	-	91	753	673	548	313	136	75	39	2,628
Montana	-	176	785	93	39	27	6	2	1	1,129	-	101	1,406	724	293	73	16	1	3	2,617
Nebraska	-	215	132	20	19	29	6	-	1	422	21	246	861	461	298	153	88	49	59	2,215
Nevada 3/	-	398	49	21	10	2	-	-	-	480	-	1,094	301	26	11	6	-	-	-	1,438
New Hampshire 3/	-	41	113	18	5	4	1	1	1	184	-	58	221	98	55	20	9	8	5	474
New Jersey	-	1	27	14	13	5	3	2	-	65	8	3	74	110	38	18	6	-	2	251
New Mexico	-	503	299	38	1	3	-	-	-	844	-	862	507	207	91	32	1	7	1	1,708
New York	15	99	426	139	82	61	41	36	47	931	22	95	918	336	154	113	91	31	62	1,800
North Carolina	-	35	390	115	40	56	4	3	16	659	-	118	1,184	482	239	112	54	19	11	2,219
North Dakota	-	156	202	80	77	6	-	-	-	521	-	126	691	515	349	269	86	42	10	2,088
Ohio	-	162	393	110	44	13	1	1	-	724	-	191	834	366	135	50	16	5	5	1,602
Oklahoma	-	175	339	72	72	19	5	1	-	683	-	172	849	455	257	187	88	35	22	2,065
Oregon	-	79	405	65	5	-	-	-	-	554	14	163	945	881	460	117	17	3	20	2,606
Pennsylvania	1	239	484	233	65	32	12	4	6	1,075	2	151	729	464	263	112	48	19	20	1,806
Rhode Island	-	1	21	-	-	-	-	-	-	22	-	-	2	7	10	9	7	8	5	48
South Carolina	-	210	320	103	32	17	-	-	-	682	-	64	838	263	105	21	2	6	5	1,304
South Dakota	-	19	306	219	45	19	1	-	-	609	66	112	890	403	278	183	114	73	71	2,124
Tennessee	-	610	67	4	6	6	1	-	-	694	-	610	675	88	36	7	2	1	-	1,419
Texas	-	551	1,198	322	107	13	-	1	-	2,192	4	574	3,382	1,919	414	77	15	10	1	6,392
Utah	-	217	318	77	44	36	19	3	4	718	11	76	500	243	107	22	13	2	-	963
Vermont	-	-	252	18	9	2	-	-	-	281	-	1	199	42	41	19	6	11	4	323
Virginia	-	59	567	33	2	3	-	-	-	664	-	65	736	373	99	90	30	5	2	1,400
Washington	-	118	189	50	29	53	25	-	4	468	2	335	1,110	335	138	64	24	25	4	2,035
West Virginia	-	116	266	37	24	15	-	1	-	459	7	102	511	323	127	59	11	6	3	1,142
Wisconsin	-	58	202	135	51	17	9	-	-	472	-	606	920	501	243	111	55	12	4	2,452
Wyoming	-	259	440	87	14	11	-	15	1	827	-	389	1,206	247	79	32	1	3	-	1,957
U.S. Total	103	8,205	14,696	4,558	2,211	1,039	346	157	129	31,341	498	12,229	37,219	17,622	8,227	3,976	1,841	749	691	82,554
Puerto Rico	-	-	-	1	8	17	3	2	-	31	2	-	1	8	8	2	6	-	2	27
Grand Total	103	8,205	14,696	4,559	2,219	1,056	349	159	129	31,372	500	12,229	37,220	17,630	8,235	3,978	1,847	749	693	82,581

For footnotes, see Footnotes Page.

NATIONAL HIGHWAY SYSTEM LENGTH - 2004
MILES BY MEASURED PAVEMENT ROUGHNESS - RURAL

TABLE HM-47
SHEET 2 OF 4

OCTOBER 2005

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	-	264	1,392	557	269	72	49	24	35	2,662
Alaska	162	29	467	409	321	329	133	4	112	1,804
Arizona	10	1,266	562	167	48	32	7	-	-	2,082
Arkansas	32	221	834	682	295	123	60	20	7	2,242
California	3	420	2,341	1,200	584	266	92	62	20	4,985
Colorado	-	136	994	547	387	155	282	32	19	2,552
Connecticut	-	5	81	52	34	23	4	1	1	201
Delaware	-	4	82	55	14	1	-	-	-	156
Dist. of Columbia	-	-	-	-	-	-	-	-	-	-
Florida	17	1,176	965	93	9	5	-	-	-	2,248
Georgia	-	1,591	1,128	148	22	6	3	-	-	2,898
Hawaii	-	-	35	53	54	15	12	1	-	170
Idaho	-	90	1,319	424	276	44	6	4	1	2,164
Illinois	-	380	1,368	723	418	253	81	46	20	3,289
Indiana 3/	1	390	1,132	379	145	93	31	9	1	2,180
Iowa	38	298	987	650	311	186	92	47	46	2,617
Kansas	65	326	2,294	544	52	26	5	3	2	3,252
Kentucky	1	695	1,135	301	134	28	-	1	-	2,294
Louisiana	90	245	551	352	208	122	91	49	26	1,644
Maine	-	174	576	205	71	28	25	12	12	1,103
Maryland	10	95	344	95	57	12	13	12	9	637
Massachusetts	-	38	49	98	33	30	3	1	3	255
Michigan	-	572	1,070	518	287	209	72	23	13	2,764
Minnesota	-	780	1,321	710	350	70	15	1	1	3,248
Mississippi	-	254	1,222	324	226	87	14	27	51	2,205
Missouri	-	172	987	916	681	395	162	77	40	3,430
Montana	-	277	2,191	817	333	100	21	3	4	3,746
Nebraska	22	461	994	481	317	183	95	49	60	2,640
Nevada 3/	-	1,491	350	47	22	8	-	-	-	1,918
New Hampshire 3/	-	99	334	116	60	25	10	10	6	660
New Jersey	8	4	101	124	51	23	9	2	2	316
New Mexico	-	1,365	807	245	93	35	2	7	1	2,555
New York	37	194	1,344	475	236	174	132	67	109	2,731
North Carolina	-	152	1,574	598	279	168	58	23	27	2,879
North Dakota	-	281	893	595	426	276	86	42	10	2,609
Ohio	-	353	1,227	476	179	63	17	6	5	2,326
Oklahoma	-	347	1,188	527	330	206	93	36	22	2,749
Oregon	14	242	1,350	946	465	117	17	3	20	3,160
Pennsylvania	3	390	1,212	697	328	144	60	23	26	2,880
Rhode Island	-	1	22	7	10	9	7	8	5	69
South Carolina	-	274	1,158	366	137	37	3	7	5	1,987
South Dakota	66	131	1,195	622	323	202	115	73	71	2,732
Tennessee	-	1,221	743	91	42	12	3	1	-	2,113
Texas	4	1,125	4,580	2,241	521	91	15	11	1	8,585
Utah	11	292	819	320	152	58	32	5	4	1,682
Vermont	-	1	451	59	49	21	6	11	4	602
Virginia	-	124	1,303	406	102	93	30	6	2	2,066
Washington	2	453	1,299	385	167	116	49	26	7	2,502
West Virginia	7	218	777	360	152	74	11	7	3	1,602
Wisconsin	-	664	1,123	636	294	128	64	12	4	2,925
Wyoming	-	648	1,647	334	92	43	1	18	1	2,784
U.S. Total	603	20,429	51,918	22,173	10,446	5,016	2,188	912	818	113,900
Puerto Rico	2	-	1	9	16	19	9	2	2	58
Grand Total	605	20,429	51,919	22,182	10,462	5,035	2,197	914	820	113,958

For footnotes, see Footnotes Page.

**NATIONAL HIGHWAY SYSTEM LENGTH - 2004
MILES BY MEASURED PAVEMENT ROUGHNESS - URBAN**

TABLE HM-47
SHEET 3 OF 4

OCTOBER 2005

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	-	22	139	53	25	17	11	22	34	323	-	98	282	144	118	38	19	9	13	721
Alaska	-	12	25	24	2	5	1	-	-	69	9	13	23	11	7	5	6	1	1	66
Arizona	-	87	64	27	8	1	-	-	-	187	24	77	135	92	73	38	10	9	5	439
Arkansas	3	28	67	26	20	21	13	6	6	187	13	3	58	60	38	23	11	17	248	
California	2	36	275	215	187	165	136	77	16	1,107	7	29	352	344	283	189	193	61	75	1,526
Colorado	-	3	119	68	46	16	16	-	-	268	1	22	211	153	147	74	79	40	32	758
Connecticut	-	26	127	84	39	12	8	5	3	304	-	13	96	137	87	64	29	13	21	460
Delaware	1	5	16	13	2	2	1	1	-	40	-	2	55	42	13	4	3	3	3	125
Dist. of Columbia	-	-	-	-	4	1	1	1	1	12	-	-	-	-	1	5	6	4	54	70
Florida	4	410	271	24	9	2	1	-	-	717	6	378	767	131	45	26	10	4	11	1,372
Georgia	-	340	152	26	6	-	-	-	-	524	-	447	391	75	30	14	9	2	1	969
Hawaii	-	-	7	6	10	14	5	2	4	48	-	1	32	32	34	17	7	2	2	127
Idaho	-	10	61	7	4	-	2	5	2	91	2	5	32	35	14	10	7	4	6	113
Illinois	-	30	231	190	111	80	24	12	4	682	-	18	188	428	307	222	170	116	283	1,732
Indiana 3/	-	15	153	70	42	30	5	1	-	316	6	18	93	95	53	56	35	12	15	377
Iowa	2	8	54	29	22	15	8	8	7	151	22	13	101	77	54	41	26	27	45	384
Kansas	16	7	67	62	38	3	-	-	-	177	41	26	117	36	17	19	5	2	7	229
Kentucky	1	47	93	29	29	7	1	2	-	208	-	37	155	110	38	22	15	2	8	387
Louisiana	53	28	84	56	29	47	16	3	4	267	21	22	134	72	46	79	48	60	67	528
Maine	-	4	36	12	1	-	1	-	-	54	-	3	35	24	22	13	9	6	21	133
Maryland	9	23	141	47	32	14	10	4	17	288	11	62	155	89	52	39	27	18	62	504
Massachusetts	5	338	22	63	18	31	3	2	1	478	23	5	163	236	192	193	202	132	89	1,212
Michigan	1	43	213	131	93	68	37	19	26	630	-	40	277	236	233	184	132	85	178	1,365
Minnesota	-	10	109	52	34	18	7	1	-	231	-	50	153	101	112	40	16	6	10	488
Mississippi	-	25	97	30	30	13	5	3	-	203	-	27	131	110	44	47	16	13	26	414
Missouri	-	20	113	103	63	41	20	10	10	380	5	10	88	109	125	111	72	56	74	645
Montana	-	3	28	13	5	3	8	1	-	61	1	1	10	11	9	12	10	4	8	65
Nebraska	-	11	15	9	10	8	3	1	-	57	14	2	9	14	40	49	46	28	64	252
Nevada 3/	-	30	15	7	11	15	2	1	-	81	-	60	45	15	9	2	1	1	2	135
New Hampshire 3/	-	13	34	1	-	1	-	-	1	50	-	17	59	14	12	6	3	2	1	114
New Jersey	7	1	90	123	42	38	34	14	17	359	16	2	296	365	292	151	79	51	134	1,370
New Mexico	-	58	58	16	19	2	1	1	1	156	-	39	89	35	22	13	14	5	10	227
New York	17	54	269	123	92	56	35	28	54	711	72	24	297	297	235	182	137	90	322	1,584
North Carolina	-	20	185	73	43	29	9	7	21	387	-	3	213	143	76	41	24	12	14	526
North Dakota	-	2	38	9	2	-	-	-	-	51	-	1	15	18	11	8	10	4	2	69
Ohio	-	84	521	163	52	14	5	8	3	850	-	104	432	279	173	96	56	31	55	1,226
Oklahoma	-	37	99	35	21	22	9	8	17	248	3	25	126	56	59	37	27	21	13	364
Oregon	1	9	103	34	21	4	1	-	-	172	5	17	114	85	90	42	24	12	14	398
Pennsylvania	13	85	302	169	54	39	12	4	3	668	9	89	438	459	352	271	134	95	75	1,913
Rhode Island	-	9	25	13	2	-	-	-	-	49	-	-	34	39	28	17	11	8	14	151
South Carolina	-	35	82	24	15	5	1	-	-	162	-	7	155	107	91	53	24	15	24	476
South Dakota	-	-	25	28	9	4	4	-	-	70	6	1	11	9	13	9	11	3	8	65
Tennessee	-	247	126	23	7	4	2	-	1	410	-	217	277	92	62	35	15	9	21	728
Texas	3	87	415	287	144	82	19	4	-	1,038	104	91	982	825	680	431	199	125	231	3,564
Utah	-	65	54	63	29	10	1	-	-	222	3	41	106	63	25	18	1	6	1	261
Vermont	-	-	27	3	4	7	-	-	-	41	-	-	18	10	9	3	2	5	5	56
Virginia	1	19	178	140	71	31	8	2	2	451	11	8	270	263	157	109	73	37	43	960
Washington	-	102	91	33	19	15	16	8	12	296	74	67	230	104	67	31	17	12	21	549
West Virginia	-	24	46	11	8	4	1	1	-	95	-	5	46	22	18	10	6	4	8	119
Wisconsin	1	21	132	65	25	14	12	-	-	269	2	43	203	190	165	138	92	61	82	974
Wyoming	-	19	29	11	7	6	11	2	3	88	-	26	31	10	5	1	2	2	2	82
U.S. Total	140	2,612	5,723	2,923	1,616	1,036	526	274	274	14,984	511	2,296	8,720	6,516	4,889	3,365	2,191	1,343	2,300	31,620
Puerto Rico	1	-	10	52	58	61	27	10	15	233	5	-	-	16	22	28	15	5	16	102
Grand Total	141	2,612	5,733	2,975	1,674	1,097	553	284	289	15,217	516	2,296	8,720	6,532	4,911	3,393	2,206	1,348	2,316	31,722

For footnotes, see Footnotes Page.

NATIONAL HIGHWAY SYSTEM LENGTH - 2004

MILES BY MEASURED PAVEMENT ROUGHNESS - URBAN

TABLE HM-47
SHEET 4 OF 4

OCTOBER 2005

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	-	120	420	198	143	55	31	31	47	1,045
Alaska	9	12	37	48	13	12	5	6	1	134
Arizona	24	163	199	119	81	39	10	9	5	625
Arkansas	16	31	125	87	57	59	36	17	23	435
California	8	65	627	559	471	354	328	138	91	2,633
Colorado	1	25	330	221	194	90	95	40	32	1,027
Connecticut	-	39	223	221	126	75	37	18	24	763
Delaware	1	7	70	55	15	6	3	4	4	164
Dist. of Columbia	-	-	-	-	5	7	7	5	59	83
Florida	10	788	1,038	155	54	28	11	4	11	2,089
Georgia	-	787	543	101	36	14	9	2	1	1,493
Hawaii	-	2	39	38	44	32	11	4	6	176
Idaho	2	15	93	42	18	10	9	8	8	203
Illinois	-	48	419	617	419	302	193	128	287	2,413
Indiana 3/	6	33	246	165	95	86	40	14	15	694
Iowa	24	21	155	106	76	56	34	35	52	535
Kansas	57	32	184	97	55	22	5	3	7	405
Kentucky	1	84	249	139	68	29	16	4	8	597
Louisiana	74	51	218	129	74	126	63	63	71	795
Maine	-	7	71	36	23	13	10	6	21	187
Maryland	21	84	296	136	84	53	37	22	79	791
Massachusetts	28	343	184	299	210	224	205	133	90	1,688
Michigan	1	83	489	367	326	252	169	104	203	1,993
Minnesota	-	60	262	153	146	58	23	7	10	719
Mississippi	-	53	229	140	74	60	21	16	26	619
Missouri	5	29	201	212	188	152	91	66	84	1,023
Montana	1	5	38	24	14	15	17	5	8	126
Nebraska	14	13	25	23	50	57	48	29	64	309
Nevada 3/	-	90	60	22	20	16	2	2	2	214
New Hampshire 3/	-	30	94	15	12	7	3	2	3	166
New Jersey	23	3	386	488	335	189	112	65	151	1,729
New Mexico	-	97	147	51	41	15	14	6	10	381
New York	89	78	566	420	327	238	172	118	376	2,295
North Carolina	-	23	397	216	118	70	33	19	34	910
North Dakota	-	3	53	27	12	8	10	4	2	119
Ohio	-	188	952	442	226	110	61	38	59	2,076
Oklahoma	3	62	225	91	80	59	37	29	30	613
Oregon	6	26	218	119	111	46	25	12	14	571
Pennsylvania	22	174	740	628	405	310	146	98	78	2,579
Rhode Island	-	9	60	52	29	17	12	8	14	201
South Carolina	-	42	237	131	107	57	25	15	24	638
South Dakota	6	1	36	37	22	13	15	3	8	135
Tennessee	-	465	403	115	70	39	17	10	22	1,141
Texas	107	179	1,397	1,112	824	513	218	129	232	4,604
Utah	3	106	159	125	54	28	2	6	1	481
Vermont	-	-	45	13	13	15	3	2	5	96
Virginia	12	27	448	403	228	140	81	39	46	1,412
Washington	74	169	321	137	86	46	34	20	33	846
West Virginia	-	29	92	33	26	14	7	5	8	214
Wisconsin	3	64	335	256	190	152	104	61	82	1,244
Wyoming	-	45	60	21	12	11	12	3	5	169
U.S. Total	651	4,910	14,441	9,441	6,507	4,399	2,709	1,615	2,576	46,598
Puerto Rico	6	-	10	68	80	89	42	15	31	335
Grand Total	657	4,910	14,451	9,509	6,587	4,488	2,751	1,630	2,607	46,933

For footnotes, see Footnotes Page.

NATIONAL HIGHWAY SYSTEM LENGTH - 2004

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.
- 3/ 2003 data used.