

**FUNCTIONAL SYSTEM LENGTH - 2003**  
**MILES BY MEASURED PAVEMENT ROUGHNESS - RURAL**

TABLE HM-64  
SHEET 1 OF 4

OCTOBER 2004

STATE	INTERNATIONAL ROUGHNESS INDEX (IRI) 1/									
	INTERSTATE									TOTAL REPORTED
	NOT REPORTED 2/	< 60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	
Alabama	-	258	259	47	31	10	-	-	-	605
Alaska	-	31	348	322	185	127	-	-	-	1,013
Arizona	-	744	217	15	5	-	-	-	-	981
Arkansas	5	139	209	40	16	19	18	14	7	462
California	-	312	390	271	186	92	57	16	33	1,357
Colorado	-	5	250	205	139	45	24	16	2	686
Connecticut	-	2	34	6	-	1	-	-	-	43
Delaware	-	-	-	-	-	-	-	-	-	-
Dist. of Columbia	-	-	-	-	-	-	-	-	-	-
Florida	-	785	162	-	3	-	-	-	-	950
Georgia	-	507	248	44	7	-	-	-	-	806
Hawaii	-	-	-	-	1	5	-	-	-	6
Idaho	-	44	325	119	32	4	2	-	-	526
Illinois	-	308	804	284	74	37	-	-	-	1,507
Indiana	-	149	542	114	33	15	-	-	-	853
Iowa	-	78	283	157	68	29	6	3	3	627
Kansas	-	31	533	89	35	1	1	-	-	690
Kentucky	1	299	127	57	63	5	-	-	-	551
Louisiana	54	53	167	116	109	76	22	8	7	558
Maine	-	83	173	46	10	1	-	-	-	313
Maryland	1	15	133	27	5	1	1	-	-	182
Massachusetts	-	38	6	28	2	16	-	-	-	90
Michigan	-	48	209	136	117	55	29	11	7	612
Minnesota	-	104	292	201	77	6	3	-	-	683
Mississippi	-	58	187	123	71	10	19	5	8	481
Missouri 4/	-	160	267	229	120	27	3	-	-	806
Montana	-	177	781	91	47	27	3	3	1	1,130
Nebraska	-	192	123	54	23	31	6	-	-	429
Nevada	-	398	49	21	10	2	-	-	-	480
New Hampshire	-	41	113	18	5	4	1	1	1	184
New Jersey	-	1	27	14	13	5	3	2	-	65
New Mexico	-	519	311	26	11	-	-	-	-	867
New York	15	116	542	110	49	55	26	27	6	931
North Carolina	-	35	338	118	39	64	18	13	19	644
North Dakota	-	265	187	65	13	-	-	-	-	530
Ohio	-	478	191	41	12	1	-	-	-	723
Oklahoma	-	162	265	149	72	31	3	1	-	683
Oregon	-	29	223	284	35	10	1	-	-	582
Pennsylvania	1	234	531	223	73	26	9	5	4	1,105
Rhode Island	-	-	17	5	-	-	-	-	-	22
South Carolina	-	261	278	97	41	6	1	-	-	684
South Dakota	10	40	323	210	38	8	-	-	-	619
Tennessee	-	495	169	9	2	6	1	-	-	682
Texas	-	579	1,261	291	53	7	-	1	-	2,192
Utah	-	242	328	89	47	37	19	3	4	769
Vermont	-	107	134	26	10	2	-	-	-	279
Virginia	-	84	553	13	15	3	-	-	-	668
Washington	-	122	219	75	57	25	4	-	-	502
West Virginia	-	119	263	34	23	15	-	1	-	455
Wisconsin	-	117	196	136	44	12	11	-	-	516
Wyoming	-	287	435	50	31	22	2	-	-	827
U.S. Total	87	9,351	14,022	4,925	2,152	981	293	130	102	31,956
Puerto Rico	-	-	-	-	12	12	3	2	1	30
Grand Total	87	9,351	14,022	4,925	2,164	993	296	132	103	31,986

For footnotes, see Footnotes Page.

**FUNCTIONAL SYSTEM LENGTH - 2003**  
**MILES BY MEASURED PAVEMENT ROUGHNESS - RURAL**

TABLE HM-64  
 SHEET 2 OF 4

OCTOBER 2004

STATE	INTERNATIONAL ROUGHNESS INDEX (IRI) 1/																			
	OTHER PRINCIPAL ARTERIAL										MINOR ARTERIAL 3/									
	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	-	435	1,282	304	47	7	2	-	-	2,077	-	412	2,535	549	129	-	-	-	-	3,625
Alaska	47	28	177	442	64	41	2	4	1	759	174	-	36	56	71	58	48	-	-	269
Arizona	26	529	352	151	44	32	6	-	-	1,114	19	414	474	176	116	24	38	-	-	1,242
Arkansas	12	16	592	815	402	169	81	51	28	2,154	17	-	704	790	570	641	103	152	21	2,981
California	3	239	1,459	850	604	372	136	65	23	3,748	-	10	1,273	1,255	1,879	926	693	654	313	7,003
Colorado	-	19	722	472	590	186	129	52	95	2,265	-	-	1,265	713	448	598	80	278	6	3,388
Connecticut	-	4	57	44	43	8	6	2	1	165	7	-	6	52	128	33	-	26	11	256
Delaware	-	6	114	70	18	2	1	2	1	214	-	1	66	36	5	3	4	5	3	123
Dist. of Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Florida	7	1,330	1,684	291	90	80	4	10	5	3,494	6	707	1,800	140	171	-	-	6	-	2,824
Georgia	-	1,038	1,547	180	32	8	1	1	-	2,807	-	1,211	3,756	284	335	-	-	-	-	5,586
Hawaii	-	-	35	55	56	17	13	2	-	178	-	-	23	52	99	100	37	5	-	316
Idaho	-	87	936	401	205	77	5	2	7	1,720	-	76	740	272	179	11	3	-	-	1,281
Illinois	-	101	942	688	388	288	104	60	28	2,599	-	462	1,224	747	1,976	199	46	110	13	4,777
Indiana	-	324	790	350	139	94	33	10	3	1,743	-	423	928	376	346	104	22	35	-	2,234
Iowa	53	431	1,128	702	421	351	191	100	82	3,406	37	820	746	683	655	444	287	174	81	3,890
Kansas	21	461	2,015	531	98	12	6	3	1	3,127	5	385	2,993	723	81	99	9	-	8	4,298
Kentucky	-	437	1,290	431	114	36	1	1	-	2,310	-	7	753	592	247	138	4	-	-	1,741
Louisiana	25	47	365	223	167	137	73	71	14	1,097	-	140	566	280	284	246	103	92	55	1,766
Maine	-	67	395	165	63	40	22	14	20	786	-	68	401	242	133	78	79	17	26	1,044
Maryland	9	49	257	88	26	7	5	3	2	437	-	9	482	210	46	68	16	-	-	831
Massachusetts	-	-	19	51	45	26	14	1	9	165	-	-	66	128	118	25	48	15	5	405
Michigan	9	481	1,035	519	231	192	67	17	17	2,559	-	291	2,081	798	272	334	61	-	-	3,837
Minnesota	-	1,127	1,462	697	206	78	22	2	2	3,596	-	1,148	2,355	1,555	794	352	184	10	18	6,416
Mississippi	-	62	953	449	261	72	29	1	-	1,827	-	138	1,717	1,166	455	185	49	-	-	3,710
Missouri 4/	4	148	954	859	641	302	138	48	41	3,131	-	-	1,114	790	736	411	143	62	183	3,439
Montana	-	124	1,496	653	244	73	22	3	3	2,618	-	37	1,741	706	292	39	71	52	51	2,989
Nebraska	-	708	1,000	427	248	200	68	38	35	2,724	-	746	1,491	832	452	293	115	34	232	4,195
Nevada	-	1,055	298	26	11	6	-	-	-	1,396	-	419	278	2	16	-	3	-	2	720
New Hampshire	-	60	222	98	56	21	9	8	5	479	-	38	235	99	52	26	14	16	16	506
New Jersey	8	3	69	110	39	18	5	-	2	246	23	-	102	107	6	42	9	-	22	288
New Mexico	3	913	607	193	68	37	4	1	6	1,829	19	408	630	485	170	43	119	-	108	1,963
New York	24	129	1,185	296	112	44	17	18	27	1,828	-	132	2,385	1,179	285	21	74	-	53	4,129
North Carolina	-	118	1,143	464	253	119	60	26	37	2,220	-	-	984	833	536	330	205	24	80	2,992
North Dakota	-	557	1,355	610	256	140	13	2	-	2,933	-	403	1,003	773	282	52	1	-	-	2,514
Ohio	-	557	988	268	82	22	15	2	1	1,935	-	347	1,699	421	85	69	-	7	27	2,655
Oklahoma	-	149	928	572	346	156	101	25	38	2,315	-	323	1,073	581	320	66	126	102	87	2,678
Oregon	16	56	884	1,020	624	159	32	15	11	2,801	-	23	422	723	701	245	115	24	-	2,253
Pennsylvania	2	165	849	523	291	145	54	23	12	2,062	-	104	1,450	1,278	619	729	245	104	113	4,642
Rhode Island	-	-	5	18	16	3	5	1	-	48	-	-	9	26	22	6	2	-	-	65
South Carolina	-	100	942	286	103	32	8	7	8	1,486	-	385	1,630	1,058	296	272	29	3	13	3,686
South Dakota	87	165	854	480	400	276	167	69	47	2,458	263	122	652	367	630	849	235	199	32	3,086
Tennessee	-	615	879	179	80	28	3	1	-	1,785	-	692	1,388	545	594	20	42	1	62	3,344
Texas	5	582	3,608	1,913	489	181	34	21	18	6,846	-	549	4,626	3,375	703	206	140	7	24	9,630
Utah	15	82	512	254	110	24	13	2	-	997	12	62	446	618	317	78	2	-	-	1,523
Vermont	-	23	128	57	44	30	13	11	12	318	-	24	200	217	103	92	35	37	25	733
Virginia	5	89	820	359	93	51	15	2	11	1,440	-	15	1,436	1,552	236	137	86	-	-	3,462
Washington	-	207	1,145	475	174	43	46	4	3	2,097	25	30	846	415	430	137	75	33	2	1,968
West Virginia	-	127	426	318	123	53	15	7	11	1,080	-	33	448	561	228	124	12	20	42	1,468
Wisconsin	-	851	1,286	564	321	147	54	19	13	3,255	-	1,232	1,610	715	723	262	163	133	57	4,895
Wyoming	5	923	904	121	13	16	5	-	-	1,982	-	211	769	230	107	-	1	-	-	1,318
U.S. Total	386	15,824	43,095	20,112	9,591	4,658	1,869	827	680	96,656	607	13,057	55,657	30,363	18,478	9,215	3,988	2,435	1,791	134,984
Puerto Rico	2	-	-	11	13	11	5	6	1	47	22	-	-	2	2	4	15	10	14	47
Grand Total	388	15,824	43,095	20,123	9,604	4,669	1,874	833	681	96,703	629	13,057	55,657	30,365	18,480	9,219	4,003	2,445	1,805	135,031

For footnotes, see Footnotes Page.

**FUNCTIONAL SYSTEM LENGTH - 2003**  
**MILES BY MEASURED PAVEMENT ROUGHNESS - URBAN**

TABLE HM-64  
SHEET 3 OF 4

OCTOBER 2004

STATE	INTERNATIONAL ROUGHNESS INDEX (IRI) 1/									
	INTERSTATE									TOTAL REPORTED
	NOT REPORTED 2/	< 60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	
Alabama	-	69	113	53	29	29	8	-	-	301
Alaska	-	14	25	12	10	8	1	-	-	70
Arizona	-	87	64	27	8	1	-	-	-	187
Arkansas	3	13	74	27	22	22	10	11	6	185
California	2	57	179	151	151	221	158	120	63	1,100
Colorado	-	1	109	60	55	21	21	2	-	269
Connecticut	-	26	128	97	28	12	5	3	3	302
Delaware	1	5	16	13	2	2	1	1	-	40
Dist. of Columbia	-	-	-	2	3	1	1	1	5	13
Florida	9	262	210	20	10	8	1	-	-	511
Georgia	2	260	139	34	4	-	-	-	-	437
Hawaii	-	-	7	6	10	16	5	2	3	49
Idaho	-	3	54	10	10	-	2	5	2	86
Illinois	-	56	207	174	125	46	45	7	1	661
Indiana	-	15	153	70	42	30	5	1	-	316
Iowa	2	5	52	31	24	16	10	7	7	152
Kansas	2	6	68	59	43	5	-	-	-	181
Kentucky	-	49	101	27	29	3	-	2	-	211
Louisiana	55	19	45	49	48	46	20	5	4	236
Maine	-	4	36	11	2	1	-	-	-	54
Maryland	9	18	151	58	24	12	10	5	9	287
Massachusetts	-	340	23	61	13	35	4	1	1	478
Michigan	1	43	217	127	94	70	35	19	26	631
Minnesota	-	9	120	52	28	16	3	1	-	229
Mississippi	-	9	49	53	51	33	7	3	-	205
Missouri 4/	-	20	166	76	50	36	15	6	4	373
Montana	-	5	28	11	7	5	6	1	-	63
Nebraska	-	11	17	6	6	9	3	2	-	54
Nevada	-	30	15	7	11	15	2	1	-	81
New Hampshire	-	13	34	1	-	1	-	-	1	50
New Jersey	7	1	90	123	43	38	34	14	17	360
New Mexico	-	36	60	21	5	9	1	-	-	132
New York	19	50	317	118	63	51	30	32	48	709
North Carolina	-	18	164	79	41	31	9	10	22	374
North Dakota	-	19	15	6	1	-	-	-	-	41
Ohio	-	386	365	65	27	3	2	2	-	850
Oklahoma	-	15	94	28	32	28	19	18	15	249
Oregon	1	5	31	58	40	8	4	-	-	146
Pennsylvania	13	63	293	176	62	22	13	6	3	638
Rhode Island	-	-	28	15	5	-	1	-	-	49
South Carolina	-	47	72	25	11	4	-	-	-	159
South Dakota	-	-	17	20	8	3	2	-	-	50
Tennessee	-	174	156	30	19	7	4	1	1	392
Texas	-	73	425	257	195	71	16	3	2	1,042
Utah	-	40	44	50	26	9	1	-	-	170
Vermont	-	6	20	3	5	7	-	-	-	41
Virginia	1	21	185	120	73	33	10	4	3	449
Washington	-	73	97	33	22	16	15	4	3	263
West Virginia	-	24	45	11	8	4	1	1	-	94
Wisconsin	4	37	93	58	18	14	5	-	-	225
Wyoming	-	25	29	12	12	5	2	1	-	86
U.S. Total	131	2,562	5,240	2,693	1,655	1,083	547	302	249	14,331
Puerto Rico	1	-	16	69	74	32	26	5	10	232
Grand Total	132	2,562	5,256	2,762	1,729	1,115	573	307	259	14,563

For footnotes, see Footnotes Page.

**FUNCTIONAL SYSTEM LENGTH - 2003**  
**MILES BY MEASURED PAVEMENT ROUGHNESS - URBAN**

TABLE HM-64  
 SHEET 4 OF 4

OCTOBER 2004

STATE	INTERNATIONAL ROUGHNESS INDEX (IRI) 1/																			
	OTHER FREEWAYS AND EXPRESSWAYS										OTHER PRINCIPAL ARTERIAL									
	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	-	-	16	1	2	1	-	-	-	20	-	278	488	145	59	24	4	2	3	1,003
Alaska	-	-	-	-	-	-	-	-	-	-	-	8	13	14	14	5	3	1	2	60
Arizona	1	34	64	29	11	9	2	-	-	149	648	90	98	94	74	41	12	12	10	431
Arkansas	2	1	28	11	7	21	12	3	4	87	57	3	38	102	116	84	66	42	76	527
California	-	61	286	314	227	213	176	111	44	1,432	15	30	249	602	930	1,205	994	893	1,164	6,067
Colorado	-	2	75	100	47	27	16	10	1	278	-	2	162	248	138	110	65	171	86	982
Connecticut	-	14	92	79	23	16	6	3	4	237	-	-	25	113	156	128	84	81	91	678
Delaware	-	-	7	5	1	1	-	-	-	14	1	8	57	26	14	9	6	4	10	134
Dist. of Columbia	-	-	1	-	3	4	2	1	11	22	-	-	-	-	2	3	6	80	91	91
Florida	5	147	281	20	6	6	4	-	-	464	24	413	1,356	462	202	88	46	38	13	2,618
Georgia	-	55	50	10	3	3	1	-	-	122	1	428	720	231	94	37	16	7	3	1,536
Hawaii	-	-	7	4	13	4	5	1	-	34	-	1	30	35	46	24	9	6	9	160
Idaho	-	-	-	-	-	-	-	-	-	-	5	5	59	51	49	42	25	18	20	269
Illinois	-	-	5	20	41	15	3	3	1	88	1	31	369	659	493	386	266	205	269	2,678
Indiana	-	16	42	37	14	15	7	5	1	137	8	55	245	324	271	246	144	112	134	1,531
Iowa	-	-	-	-	-	-	-	-	-	-	61	30	167	127	108	85	56	52	116	741
Kansas	7	19	59	22	13	5	3	2	2	125	-	18	91	48	33	42	20	26	30	308
Kentucky	-	5	42	13	2	1	2	-	-	65	-	37	226	262	111	76	27	14	23	776
Louisiana	2	1	7	3	6	5	7	2	2	33	29	9	134	118	82	87	94	113	191	828
Maine	-	-	9	3	2	1	1	1	1	18	-	2	31	24	27	21	12	10	47	174
Maryland	10	21	127	68	27	19	7	3	6	278	4	54	227	190	143	111	79	65	171	1,040
Massachusetts	-	-	93	96	50	10	28	6	6	289	11	-	31	166	299	416	400	253	286	1,851
Michigan	-	22	129	54	59	19	10	5	7	305	1	20	211	262	307	396	261	236	434	2,127
Minnesota	-	13	64	32	27	13	4	1	-	154	-	55	179	125	84	57	17	20	20	557
Mississippi	-	3	30	7	6	-	-	-	-	46	-	25	221	384	166	80	39	32	33	980
Missouri 4/	4	5	49	43	80	42	33	31	39	322	355	2	37	66	75	106	89	83	246	704
Montana	-	-	-	-	-	-	-	-	-	-	1	1	22	26	21	32	19	17	42	180
Nebraska	-	-	1	2	5	10	3	1	-	22	25	11	28	28	37	55	55	57	112	383
Nevada	-	23	14	11	3	-	-	-	-	51	-	48	91	39	22	17	5	3	5	230
New Hampshire	-	8	24	-	2	2	-	-	-	36	-	25	61	28	24	11	11	9	17	186
New Jersey	1	1	119	123	81	40	23	8	7	402	146	2	212	293	288	224	107	103	322	1,551
New Mexico	-	-	5	-	-	-	-	-	-	5	38	50	147	123	88	76	54	37	55	630
New York	26	36	247	136	114	111	54	29	45	772	136	15	303	299	271	180	156	168	939	2,331
North Carolina	-	5	145	65	39	19	12	6	9	300	-	5	381	303	248	161	97	49	112	1,356
North Dakota	-	-	-	-	-	-	-	-	-	-	-	3	39	38	26	22	20	11	6	165
Ohio	-	141	183	94	36	13	10	4	3	484	-	159	669	539	372	257	156	104	162	2,418
Oklahoma	2	12	84	30	29	14	8	5	2	184	311	23	156	147	106	84	65	61	75	717
Oregon	-	-	2	22	25	3	1	-	-	53	10	5	99	132	158	108	64	45	70	681
Pennsylvania	3	29	157	122	90	52	35	17	10	512	8	43	399	560	547	478	261	205	188	2,681
Rhode Island	-	-	28	31	14	8	3	1	-	85	-	-	18	71	102	67	41	29	28	356
South Carolina	-	7	35	15	5	8	1	-	-	71	-	11	201	190	119	72	37	26	47	703
South Dakota	-	-	-	-	-	-	-	-	-	-	60	-	5	15	8	18	14	5	8	73
Tennessee	-	41	58	24	14	4	2	1	2	146	-	247	564	262	174	95	54	32	53	1,481
Texas	8	53	419	325	214	108	20	9	12	1,160	176	83	795	963	895	676	389	321	700	4,822
Utah	-	2	5	1	-	-	-	-	-	8	32	37	112	57	27	22	5	5	1	266
Vermont	-	-	5	5	3	1	4	-	-	18	-	1	26	13	19	13	10	5	11	98
Virginia	1	1	101	71	22	15	9	3	2	224	52	5	217	344	224	145	93	65	80	1,173
Washington	5	41	135	48	25	14	8	7	7	285	813	13	90	76	42	33	16	11	21	302
West Virginia	-	-	1	1	2	2	-	-	3	9	-	9	68	53	31	21	11	5	6	204
Wisconsin	-	25	95	55	36	13	8	3	2	237	37	53	204	256	239	223	135	140	146	1,396
Wyoming	2	2	-	-	1	-	-	-	-	3	14	52	69	30	16	18	5	5	2	197
U.S. Total		846	3,426	2,152	1,430	887	530	282	233	9,786	3,440	2,505	10,440	9,763	8,195	7,016	4,717	4,020	6,775	53,341
Puerto Rico	2	-	1	10	2	21	14	3	3	54	65	-	3	22	63	89	56	43	39	315
Grand Total	83	846	3,427	2,162	1,432	908	544	285	236	9,840	3,505	2,505	10,443	9,785	8,258	7,105	4,773	4,063	6,814	53,746

For footnotes, see Footnotes Page.

# **FUNCTIONAL SYSTEM LENGTH - 2003**

## **MILES BY MEASURED PAVEMENT ROUGHNESS**

HM-64 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/ Estimated from sample data.
- 4/ 2002 data used.