

**FUNCTIONAL SYSTEM LENGTH - 2004**  
**MILES BY MEASURED PAVEMENT ROUGHNESS - RURAL**

TABLE HM-64  
SHEET 1 OF 4

OCTOBER 2005

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	-	38	380	59	27	12	32	16	17	581
Alaska	-	10	303	288	219	171	21	-	-	1,012
Arizona	-	744	217	15	5	-	-	-	-	981
Arkansas	5	199	181	32	14	13	17	4	2	462
California	-	211	511	255	228	45	46	35	16	1,347
Colorado	-	79	271	194	108	20	14	-	-	686
Connecticut	-	1	33	7	1	1	-	-	-	43
Delaware	-	-	-	-	-	-	-	-	-	-
Dist. of Columbia	-	-	-	-	-	-	-	-	-	-
Florida	14	511	222	3	-	-	-	-	-	736
Georgia	-	433	264	18	7	-	-	-	-	722
Hawaii	-	-	-	-	1	5	-	-	-	6
Idaho	-	46	333	97	39	4	-	2	-	521
Illinois	-	338	715	290	99	42	-	-	3	1,487
Indiana 4/	-	149	542	114	33	15	-	-	-	853
Iowa	-	76	284	158	70	29	6	3	2	628
Kansas	10	29	526	79	20	17	-	-	-	671
Kentucky	1	299	132	57	59	5	-	-	-	552
Louisiana	56	143	155	120	62	27	13	8	-	528
Maine	-	91	175	37	9	-	1	-	-	313
Maryland	1	12	135	24	6	1	4	1	-	183
Massachusetts	-	38	6	28	2	16	-	-	-	90
Michigan	-	48	209	137	116	57	29	11	7	614
Minnesota	-	73	316	162	101	27	4	-	-	683
Mississippi	-	58	362	38	17	1	-	5	-	481
Missouri	-	82	234	243	133	82	25	2	1	802
Montana	-	176	785	93	39	27	6	2	1	1,129
Nebraska	-	215	132	20	19	29	6	-	1	422
Nevada 4/	-	398	49	21	10	2	-	-	-	480
New Hampshire 4/	-	41	113	18	5	4	1	1	1	184
New Jersey	-	1	27	14	13	5	3	2	-	65
New Mexico	-	503	299	38	1	3	-	-	-	844
New York	15	99	426	139	82	61	41	36	47	931
North Carolina	-	35	390	115	40	56	4	3	16	659
North Dakota	-	156	202	80	77	6	-	-	-	521
Ohio	-	162	393	110	44	13	1	1	-	724
Oklahoma	-	175	339	72	72	19	5	1	-	683
Oregon	-	79	405	65	5	-	-	-	-	554
Pennsylvania	1	239	484	233	65	32	12	4	6	1,075
Rhode Island	-	1	21	-	-	-	-	-	-	22
South Carolina	-	210	320	103	32	17	-	-	-	682
South Dakota	-	19	306	219	45	19	1	-	-	609
Tennessee	-	610	67	4	6	6	1	-	-	694
Texas	-	551	1,198	322	107	13	-	1	-	2,192
Utah	-	217	318	77	44	36	19	3	4	718
Vermont	-	-	252	18	9	2	-	-	-	281
Virginia	-	59	567	33	2	3	-	-	-	664
Washington	-	118	189	50	29	53	25	-	4	468
West Virginia	-	116	266	37	24	15	-	1	-	459
Wisconsin	-	58	202	135	51	17	9	-	-	472
Wyoming	-	259	440	87	14	11	-	15	1	827
U.S. Total	103	8,205	14,696	4,558	2,211	1,039	346	157	129	31,341
Puerto Rico	-	-	-	1	8	17	3	2	-	31
Grand Total	103	8,205	14,696	4,559	2,219	1,056	349	159	129	31,372

For footnotes, see Footnotes Page.

**FUNCTIONAL SYSTEM LENGTH - 2004**  
**MILES BY MEASURED PAVEMENT ROUGHNESS - RURAL**

TABLE HM-64  
 SHEET 2 OF 4

OCTOBER 2005

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	-	232	1,024	518	266	60	11	10	12	2,133	-	143	2,169	855	286	129	100	-	23	3,705
Alaska	155	19	158	93	49	116	99	4	112	650	174	-	28	63	29	88	59	-	-	267
Arizona	26	561	355	152	43	32	8	-	-	1,151	20	379	580	188	120	24	30	-	-	1,321
Arkansas	30	21	778	805	330	136	65	22	10	2,167	-	-	1,102	734	534	384	178	29	40	3,001
California	3	220	1,895	989	348	206	39	28	15	3,740	-	63	1,656	2,480	1,476	681	424	101	116	6,997
Colorado	7	60	887	403	395	163	288	62	60	2,318	-	-	955	1,362	543	414	64	280	134	3,752
Connecticut	-	4	49	49	33	22	4	1	1	163	-	-	30	46	106	52	14	-	-	248
Delaware	-	5	87	50	13	1	-	-	-	156	-	1	49	29	3	-	2	4	1	89
Dist. of Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Florida	19	1,012	1,527	208	40	47	5	8	-	2,847	107	673	1,456	125	50	-	-	-	5	2,309
Georgia	-	1,407	1,040	114	10	7	-	-	-	2,578	-	1,561	3,201	371	175	-	-	-	-	5,308
Hawaii	-	-	35	61	57	12	12	1	-	178	-	-	31	79	89	87	29	2	-	317
Idaho	-	44	1,039	339	237	41	6	2	1	1,709	17	39	761	300	164	37	1	-	-	1,302
Illinois	-	61	961	647	441	265	106	60	21	2,562	-	307	1,192	971	1,499	198	459	105	13	4,744
Indiana 4/	-	324	790	350	139	94	33	10	3	1,743	-	423	928	376	346	104	22	35	-	2,234
Iowa	43	386	1,093	745	449	347	206	94	94	3,414	-	784	869	509	555	653	155	316	83	3,924
Kansas	58	340	2,076	590	41	11	5	2	2	3,067	-	351	3,056	692	89	96	10	-	8	4,302
Kentucky	-	447	1,313	426	107	44	1	1	-	2,339	-	2	740	583	238	150	4	-	-	1,717
Louisiana	25	98	384	211	147	77	67	48	19	1,051	-	194	657	281	127	314	50	37	53	1,713
Maine	-	83	401	168	61	28	25	12	12	790	-	87	395	266	115	92	46	18	25	1,044
Maryland	9	82	206	67	44	9	8	9	6	431	-	-	542	138	45	27	42	-	35	829
Massachusetts	-	-	43	70	30	14	3	1	3	164	-	-	91	107	121	47	28	8	4	406
Michigan	-	574	1,030	507	200	179	56	11	9	2,566	-	810	1,741	616	370	293	7	-	-	3,837
Minnesota	-	982	1,414	696	379	71	25	4	9	3,580	-	1,061	2,096	1,629	924	384	205	136	4	6,439
Mississippi	-	213	941	306	243	78	5	22	57	1,865	-	83	1,305	894	625	329	449	-	12	3,697
Missouri	-	110	954	846	684	376	154	90	50	3,264	-	-	1,067	1,096	817	247	629	56	147	4,059
Montana	-	101	1,406	724	293	73	16	1	3	2,617	-	110	1,643	686	342	116	37	-	55	2,989
Nebraska	26	341	1,075	516	330	204	92	54	61	2,673	-	649	1,631	768	512	287	121	37	170	4,175
Nevada 4/	-	1,055	298	26	11	6	-	-	-	1,396	-	419	278	2	16	-	3	-	2	720
New Hampshire 4/	-	60	222	98	56	21	9	8	5	479	-	38	235	99	52	26	14	16	506	
New Jersey	8	3	69	110	39	18	6	-	2	247	-	-	103	122	11	45	8	-	22	311
New Mexico	6	899	555	225	99	36	9	7	2	1,832	18	480	629	262	304	47	66	1	123	1,912
New York	24	95	902	351	171	113	88	35	72	1,827	-	-	2,351	877	612	114	91	30	50	4,125
North Carolina	-	104	1,169	437	235	126	58	28	41	2,198	-	-	1,046	913	456	277	194	27	83	2,996
North Dakota	-	156	961	757	487	324	160	63	26	2,934	-	21	624	592	650	474	151	1	-	2,513
Ohio	-	231	1,019	420	164	79	17	13	5	1,948	-	174	1,320	489	280	215	76	36	63	2,653
Oklahoma	1	177	949	571	284	187	90	34	23	2,315	-	317	1,081	565	339	63	136	93	91	2,685
Oregon	14	179	1,029	921	465	127	17	3	20	2,761	-	33	652	695	633	214	54	44	17	2,342
Pennsylvania	3	160	772	511	277	126	48	20	24	1,938	-	100	1,426	1,146	743	700	187	99	102	4,503
Rhode Island	-	-	2	7	10	9	7	8	5	48	-	-	3	11	23	14	10	2	3	66
South Carolina	-	71	956	283	135	27	3	7	5	1,487	-	362	1,569	1,178	423	100	45	4	14	3,695
South Dakota	63	148	1,036	438	290	225	137	122	76	2,472	213	198	736	106	761	536	361	242	175	3,115
Tennessee	-	758	852	97	40	10	3	2	2	1,764	-	1,029	1,677	293	180	102	-	14	24	3,319
Texas	8	611	3,636	2,054	409	108	22	22	6	6,868	-	690	4,354	3,421	928	196	-	7	-	9,596
Utah	11	76	498	242	107	22	13	2	-	960	9	67	393	594	309	77	2	-	-	1,442
Vermont	-	1	199	41	41	19	6	11	3	321	-	-	269	147	165	63	33	43	9	729
Virginia	-	81	780	400	79	81	11	13	2	1,447	-	4	1,415	1,445	423	101	75	-	-	3,463
Washington	-	330	1,085	327	128	56	24	25	3	1,978	15	130	691	322	465	137	64	36	32	1,877
West Virginia	8	102	511	322	124	60	11	6	3	1,139	-	34	456	535	249	124	13	21	41	1,473
Wisconsin	-	795	1,173	615	317	144	64	16	7	3,131	-	981	1,580	889	731	282	86	154	103	4,806
Wyoming	5	389	1,223	253	83	32	1	3	-	1,984	-	128	460	425	86	141	32	-	-	1,272
U.S. Total	552	14,208	42,857	20,156	9,460	4,669	2,143	1,005	892	95,390	573	12,925	53,319	31,372	19,139	9,281	4,878	2,032	1,898	134,844
Puerto Rico	3	-	1	17	9	8	8	-	6	49	155	-	-	1	-	14	22	24	77	221
Grand Total	555	14,208	42,858	20,173	9,469	4,677	2,151	1,005	898	95,439	728	12,925	53,319	31,373	19,139	9,295	4,894	2,054	1,922	134,921

For footnotes, see Footnotes Page.

**FUNCTIONAL SYSTEM LENGTH - 2004**  
**MILES BY MEASURED PAVEMENT ROUGHNESS - URBAN**

TABLE HM-64  
SHEET 3 OF 4

OCTOBER 2005

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	-	22	139	53	25	17	11	22	34	323
Alaska	-	12	25	24	2	5	1	-	-	69
Arizona	-	87	64	27	8	1	-	-	-	187
Arkansas	3	28	67	26	20	21	13	6	6	187
California	2	36	275	215	187	165	136	77	16	1,107
Colorado	-	3	119	68	46	16	16	-	-	268
Connecticut	-	26	127	84	39	12	8	5	3	304
Delaware	1	5	16	13	2	2	1	1	-	40
Dist. of Columbia	-	-	-	-	4	1	1	1	5	12
Florida	4	410	271	24	9	2	1	-	-	717
Georgia	-	340	152	26	6	-	-	-	-	524
Hawaii	-	-	7	6	10	14	5	2	4	48
Idaho	-	10	61	7	4	-	2	5	2	91
Illinois	-	30	231	190	111	80	24	12	4	682
Indiana 4/	-	15	153	70	42	30	5	1	-	316
Iowa	2	8	54	29	22	15	8	8	7	151
Kansas	16	7	67	62	38	3	-	-	-	177
Kentucky	1	47	93	29	29	7	1	2	-	208
Louisiana	53	28	84	56	29	47	16	3	4	267
Maine	-	4	36	12	1	-	1	-	-	54
Maryland	9	23	141	47	32	14	10	4	17	288
Massachusetts	5	338	22	63	18	31	3	2	1	478
Michigan	1	43	213	131	93	68	37	19	26	630
Minnesota	-	10	109	52	34	18	7	1	-	231
Mississippi	-	25	97	30	30	13	5	3	-	203
Missouri	-	20	113	103	63	41	20	10	10	380
Montana	-	3	28	13	5	3	8	1	-	61
Nebraska	-	11	15	9	10	8	3	1	-	57
Nevada 4/	-	30	15	7	11	15	2	1	-	81
New Hampshire 4/	-	13	34	1	-	1	-	-	1	50
New Jersey	7	1	90	123	42	38	34	14	17	359
New Mexico	-	58	58	16	19	2	1	1	1	156
New York	17	54	269	123	92	56	35	28	54	711
North Carolina	-	20	185	73	43	29	9	7	21	387
North Dakota	-	2	38	9	2	-	-	-	-	51
Ohio	-	84	521	163	52	14	5	8	3	850
Oklahoma	-	37	99	35	21	22	9	8	17	248
Oregon	1	9	103	34	21	4	1	-	-	172
Pennsylvania	13	85	302	169	54	39	12	4	3	668
Rhode Island	-	9	25	13	2	-	-	-	-	49
South Carolina	-	35	82	24	15	5	1	-	-	162
South Dakota	-	-	25	28	9	4	4	-	-	70
Tennessee	-	247	126	23	7	4	2	-	1	410
Texas	3	87	415	287	144	82	19	4	-	1,038
Utah	-	65	54	63	29	10	1	-	-	222
Vermont	-	-	27	3	4	7	-	-	-	41
Virginia	1	19	178	140	71	31	8	2	2	451
Washington	-	102	91	33	19	15	16	8	12	296
West Virginia	-	24	46	11	8	4	1	1	-	95
Wisconsin	1	21	132	65	25	14	12	-	-	269
Wyoming	-	19	29	11	7	6	11	2	3	88
U.S. Total	140	2,612	5,723	2,923	1,616	1,036	526	274	274	14,984
Puerto Rico	1	-	10	52	58	61	27	10	15	233
Grand Total	141	2,612	5,733	2,975	1,674	1,097	553	284	289	15,217

For footnotes, see Footnotes Page.

**FUNCTIONAL SYSTEM LENGTH - 2004**  
**MILES BY MEASURED PAVEMENT ROUGHNESS - URBAN**

TABLE HM-64  
SHEET 4 OF 4

OCTOBER 2005

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	-	-	19	7	3	1	-	2	1	33	-	140	378	217	172	71	38	21	25	1,062	
Alaska	-	-	-	-	-	-	-	-	-	-	-	-	11	20	11	7	7	3	1	60	
Arizona	1	33	63	29	11	10	2	-	-	148	662	102	101	103	95	52	13	13	12	491	
Arkansas	7	3	29	13	7	17	12	4	3	88	19	-	71	135	126	100	40	39	57	568	
California	-	7	27	385	354	274	178	167	41	20	1,446	29	32	253	639	933	1,218	973	859	1,166	6,073
Colorado	-	18	135	76	58	13	10	4	-	314	7	15	149	327	189	123	134	151	102	1,190	
Connecticut	-	13	84	82	29	17	6	3	2	236	-	-	24	127	170	142	86	51	77	677	
Delaware	-	-	7	6	1	1	-	-	-	15	1	9	83	46	23	12	8	6	11	198	
Dist. of Columbia	-	-	-	1	1	5	3	3	10	23	-	-	-	-	1	7	3	80	91	91	
Florida	14	143	352	25	6	5	3	-	-	534	185	607	1,718	611	252	90	42	27	19	3,366	
Georgia	-	48	54	8	2	4	1	-	-	117	-	766	846	163	65	28	14	4	5	1,891	
Hawaii	-	-	7	4	13	4	5	1	-	34	-	1	31	39	43	25	8	6	7	160	
Idaho	-	-	-	-	-	-	-	-	-	-	14	7	75	70	43	39	22	18	18	292	
Illinois	-	-	10	23	37	19	1	2	1	93	1	31	391	684	501	380	283	176	296	2,742	
Indiana 4/	-	16	42	37	14	15	7	5	1	137	8	55	245	324	271	246	144	112	134	1,531	
Iowa	-	-	-	-	-	-	-	-	-	-	57	23	174	126	109	85	55	56	118	746	
Kansas	9	21	67	21	11	7	1	1	2	131	335	7	118	64	38	43	23	26	30	349	
Kentucky	-	5	42	13	2	1	2	-	-	65	-	35	218	270	116	77	27	17	22	782	
Louisiana	4	-	21	2	3	11	2	-	3	42	28	25	190	143	100	124	93	119	167	961	
Maine	-	-	10	3	2	1	1	1	1	19	-	4	31	25	26	19	15	9	38	167	
Maryland	8	29	117	50	33	17	10	7	14	277	8	67	214	175	135	87	64	78	219	1,039	
Massachusetts	8	3	126	84	34	7	26	6	2	288	13	2	69	269	357	375	396	230	147	1,845	
Michigan	-	22	130	58	55	34	11	4	6	320	-	20	246	277	322	396	250	233	385	2,129	
Minnesota	-	12	60	28	31	13	4	-	-	148	-	56	170	108	123	48	18	13	28	564	
Mississippi	-	10	32	14	7	-	-	-	1	64	-	30	180	308	139	100	80	37	73	947	
Missouri	-	6	57	65	65	61	38	32	19	343	1	7	78	111	146	131	87	79	396	1,035	
Montana	-	-	-	-	-	-	-	-	-	-	4	1	16	25	25	27	25	16	41	176	
Nebraska	-	-	1	2	5	11	2	1	-	22	36	3	30	25	54	66	63	50	117	408	
Nevada 4/	-	23	14	11	3	-	-	-	-	51	-	48	91	39	22	17	5	3	5	230	
New Hampshire 4/	-	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	98	1	212	292	296	225	119	119	345	1,609	
New Mexico	-	-	5	-	-	-	-	-	-	5	41	61	154	140	100	72	56	37	45	665	
New York	21	23	174	165	114	97	80	48	76	777	132	9	292	325	279	227	161	123	919	2,335	
North Carolina	-	5	167	63	33	16	9	5	8	306	-	5	419	299	237	150	90	46	105	1,351	
North Dakota	-	-	-	-	-	-	-	-	-	-	-	1	25	39	25	23	21	11	20	165	
Ohio	-	54	197	123	64	15	14	10	6	483	-	193	548	496	398	260	181	125	210	2,411	
Oklahoma	-	17	83	22	30	14	8	8	3	185	317	16	166	160	117	80	60	60	78	737	
Oregon	-	3	23	13	14	2	-	-	-	55	8	18	128	162	245	108	45	22	26	754	
Pennsylvania	3	42	166	130	94	48	26	14	10	530	7	63	431	606	543	515	270	185	183	2,796	
Rhode Island	-	-	35	32	11	5	-	1	-	84	-	-	5	23	67	79	58	51	74	357	
South Carolina	-	1	43	13	6	7	-	-	1	71	-	6	174	187	155	75	40	30	35	702	
South Dakota	-	-	-	-	-	-	-	-	-	-	32	1	14	22	18	18	24	10	21	128	
Tennessee	-	47	47	21	13	3	2	2	2	137	-	317	610	217	146	91	48	28	58	1,515	
Texas	8	38	433	331	231	101	25	9	6	1,174	160	85	911	967	914	639	363	295	682	4,856	
Utah	1	2	7	5	1	2	-	-	-	17	3	43	126	68	33	23	6	5	1	305	
Vermont	-	-	5	7	3	1	4	-	-	20	-	-	33	16	20	13	7	6	8	103	
Virginia	1	3	116	67	16	15	10	3	2	232	12	14	231	316	236	161	103	73	79	1,213	
Washington	5	61	191	66	18	13	4	4	3	360	483	37	199	168	142	97	68	49	72	832	
West Virginia	-	-	1	1	1	1	1	1	4	10	-	6	85	50	32	13	10	4	5	205	
Wisconsin	-	13	93	67	52	26	13	4	-	268	148	85	267	308	272	241	165	129	172	1,639	
Wyoming	-	-	-	-	2	1	-	-	-	3	14	35	70	34	19	15	7	8	9	197	
U.S. Total	98	750	3,793	2,265	1,493	861	533	234	214	10,143	2,863	3,114	11,362	10,393	8,924	7,265	4,933	3,880	6,960	56,831	
Puerto Rico	2	-	-	11	7	16	9	4	9	56	56	-	3	29	62	77	58	65	41	335	
Grand Total	100	750	3,793	2,276	1,500	877	542	238	223	10,199	2,919	3,114	11,365	10,422	8,986	7,342	4,991	3,945	7,001	57,166	

For footnotes, see Footnotes Page.

## **FUNCTIONAL SYSTEM LENGTH - 2004**

### **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/ 2003 data used.