

R-384

OFFICE MEMORANDUM



MICHIGAN
STATE HIGHWAY DEPARTMENT
JOHN C. MACKIE, COMMISSIONER

May 18, 1962

To: R. L. Greenman
Assistant Testing and Research Engineer

From: E. A. Finney

Subject: Condition and Roughness Surveys on I 75 - US 23 Zilwaukee north to Kawkawlin. Research Project 39 F-7(14). Report No. 384.

With reference to your letter dated April 3, 1962, we have surveyed the four projects from Zilwaukee north to Kawkawlin and are submitting transverse cracking and surface roughness data in Tables 1 and 2 attached. The sections marked "study" are those areas that you requested be given "special attention." We also surveyed and compiled data on the intervening sections between the study sections, as control areas for purposes of comparison.

OFFICE OF TESTING AND RESEARCH

A handwritten signature in cursive script, appearing to read "E. A. Finney".

E. A. Finney, Director
Research Laboratory Division

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TABLE 1
TABULATION OF CRACKING AND ROUGHNESS BY SECTIONS

Project Number	Lane	Section Station to Station	Length, miles	Total Transverse Cracks		Total Slabs		Avg. Transverse Cracks				Roughness				Section Type
				TL	PL	TL	PL	Per Slab		Per Mile		Integrator, in. per mi		Level Indicator, g's per mi		
								TL	PL	TL	PL	TL	PL	TL	PL	
73112, C1, C2	NB	599+58 to 615+38	0.284	10	9	16	16	0.63	0.56	35.2	31.7	149	165	858	896	Study
	NB	615+38 to 625+28	0.189	12	9	10	10	1.20	0.90	63.5	47.6	133	140	652	751	Control
	NB	625+28 to 632+20	0.132	2	1	7	7	0.29	0.14	15.2	7.6	148	165	829	966	Study
	NB	632+20 to 659+65	0.530	11	10	29	29	0.38	0.34	20.8	18.9	131	153	681	811	Control
	NB	659+65 to 669+55	0.189	0	0	10	10	0.00	0.00	00.0	00.0	145	158	827	849	Study
	NB	669+55 to 700+40	0.568	6	7	31	31	0.19	0.23	10.6	12.3	135	146	747	787	Control
	SB	600+10 to 614+93	0.284	5	0	15	15	0.33	0.00	17.6	00.0	151	162	792	847	Study
	SB	614+93 to 700+12	1.609	14	14	88	88	0.16	0.16	8.7	8.7	139	151	746	821	Control
09034, C1, C3	NB	700+40 to 747+82	0.909	8	7	48	48	0.17	0.15	8.8	7.7	141	139	841	758	Control
	NB	747+82 to 754+77	0.132	7	7	7	7	1.00	1.00	53.0	53.0	124	134	741	757	Study
	NB	754+77 to 835+00	1.519	16	11	76	76	0.21	0.14	10.5	7.2	146	127	886	658	Control
	SB	700+45 to 709+08	0.163	4	4	9	9	0.44	0.44	24.5	24.5	156	142	904	761	Control
	SB	709+08 to 734+80	0.487	6	6	26	26	0.23	0.23	12.3	12.3	144	142	773	776	Study
	SB	734+80 to 747+65	0.243	3	3	13	13	0.23	0.23	12.3	12.3	148	145	825	802	Control
	SB	747+65 to 754+55	0.131	8	8	7	7	1.14	1.14	61.1	61.1	152	142	890	685	Study
	SB	754+55 to 831+57	1.458	31	20	74	74	0.42	0.27	21.3	13.7	147	131	882	710	Control
09034, C2, C4, C6	NB	835+03 to 864+85	0.565	10	11	31	31	0.32	0.35	17.7	19.5	113	96	673	487	Study
	NB	864+85 to 894+62	0.564	6	6	30	30	0.20	0.20	10.6	10.6	124	104	756	544	Control
	NB	894+62 to 924+93	0.574	4	4	31	31	0.13	0.13	7.0	7.0	121	108	652	515	Study
	NB	924+93 to 959+42	0.653	7	10	36	36	0.19	0.27	10.7	15.3	129	113	728	595	Control
	NB	959+42 to 992+75	0.625	14	14	33	33	0.42	0.42	22.4	22.4	122	115	659	602	Study
	SB	832+48 to 908+38	1.437	12	9	78	78	0.15	0.12	8.4	6.3	124	109	720	572	Control
	SB	908+38 to 916+28	0.150	1	1	9	9	0.11	0.11	6.7	6.7	137	129	748	706	Study
	SB	916+28 to 929+15	0.244	0	0	12	12	0.00	0.00	00.0	00.0	117	102	594	556	Control
	SB	929+15 to 992+64	1.202	8	8	64	64	0.12	0.12	6.7	6.7	125	121	746	652	Study
09035, C2, C6	NB	992+75 to 999+53	0.132	0	0	6	6	0.00	0.00	00.0	00.0	193	142	1136	713	Study
	NB	999+53 to 1019+45	0.379	2	2	17	17	0.12	0.12	5.3	5.3	147	125	752	630	Control
	NB	1019+45 to 1099+67	1.515	51	51	81	81	0.63	0.63	33.7	33.7	145	121	822	655	Study
	NB	1099+67 to 1162+66	1.174	31	32	64	64	0.48	0.50	26.4	27.3	132	113	696	652	Control
	SB	992+64 to 999+18	0.124	1	1	6	6	0.17	0.17	8.1	8.1	132	161	593	753	Study
	SB	999+18 to 1045+00	0.868	18	16	45	45	0.40	0.36	20.7	18.4	136	123	768	651	Control
	SB	1045+00 to 1049+98	0.095	5	3	5	5	1.00	0.60	52.6	31.6	147	174	708	885	Study
	SB	1049+98 to 1162+63	2.121	67	59	115	115	0.58	0.51	31.6	27.8	116	124	663	676	Control

TABLE 2
 COMPARISON OF CRACKING AND ROUGHNESS
 BETWEEN STUDY AND CONTROL SECTIONS FOR THE FOUR PROJECTS
 (TL = Traffic Lane, PL = Passing Lane)

Number	Length, miles	Total Transverse Cracks		Total Slabs		Avg. Transverse Cracks				Roughness				Section Type
		TL	PL	TL	PL	Per Slab		Per Mile		Integrator, in. per mi		Level Indicator, g's per mi		
						TL	PL	TL	PL	TL	PL	TL	PL	
73112, C1, C2	0.889	17	10	48	48	0.35	0.21	19.1	11.2	148	163	827	881	Study
	2.896	43	40	158	158	0.27	0.25	14.8	13.8	137	150	729	808	Control
09034, C1, C3	0.750	21	21	40	40	0.52	0.52	28.0	28.0	142	140	788	757	Study
	4.292	62	35	220	220	0.28	0.16	14.4	8.2	146	132	872	709	Control
09034, C2, C4, C6	3.116	37	38	168	168	0.22	0.23	11.9	12.2	122	114	696	590	Study
	2.898	25	25	156	156	0.16	0.16	8.6	8.6	124	108	718	570	Control
09035, C2, C6	1.866	57	55	98	98	0.58	0.56	30.5	29.5	147	127	818	674	Study
	4.542	118	109	241	241	0.49	0.45	26.0	24.0	126	121	697	638	Control
All Four Projects	6.621	132	124	354	354	0.37	0.35	19.9	18.7	134	126	755	668	Study
	14.628	248	209	775	775	0.32	0.27	16.9	14.3	134	127	759	679	Control