THE EFFECTIVENESS OF CONSTRUCTION INCENTIVES FOR CONCRETE PAVEMENTS

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Preface

This report describes a study jointly conducted by the University of Wyoming and the Wyoming Department of Transportation to examine the effect of construction Profilograph Index (PI) values on long-term roughness measurements of concrete pavements. The objectives of this study were to determine if increased initial pavement smoothness had any lasting effects on the pavement smoothness.

The study consisted of selecting 175 test sections in eight different interstate projects, obtaining construction and roughness data, compiling the data in a computerized data base, and conducting statistical analysis. The analysis resulted in the observation that when the initial roughness of concrete sections are less than 7 inches per mile, a slightly rougher section does not necessarily deteriorate faster than a slightly smoother section.

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CHAPTER 1

INTRODUCTION

Road roughness is a major factor in evaluating the condition of a highway pavement section because of its effects on ride quality for road users and vehicle operating costs. In its broadest sense, road roughness has been defined as "the deviations of a surface from a true planer surface with characteristic dimensions that affect vehicle dynamics, ride quality, dynamics loads, and drainage"(Sayers, 1985). Despite this broad description, the practice today is to limit the measurement of roughness qualities to those related to the longitudinal profile of the road surface which cause vibrations in road-using vehicles. Road roughness can also be defined as "the distortion of the road surface that imparts undesirable vertical accelerations and forces to the vehicle or to the riders and thus contributes to an undesirable, uneconomical, unsafe, or uncomfortable ride" (Hudson, 1981).

In general, road roughness can be caused by any of the following factors (Yoder and Hampton, 1958):

1. Construction techniques which allow some variation from the design profile.
2. Repeated loads, particularly in channelized areas, that can cause pavement distortion by plastic deformation in one or more of the pavement components.
3. Frost heave and volume changes due to shrinkage and swell of the subgrade.
4. Nonuniform initial compaction.

During the last three decades, several studies pointed out the major penalties of roughness to the user. In 1960, Carey and Irick (1960) showed that the driver's opinion of the quality of serviceability provided by a pavement surface is primarily influenced by roughness. Between 1971 and 1982, the World Bank supported several research activities in Brazil, Kenya, the Caribbean, and India. The main purpose of these studies was to investigate the relationship between road roughness and user costs. In 1980, Rizenbergs (1980) pointed to the following penalties associated with roughness: rider nonacceptance and discomfort, less safety, increased energy consumption, road-tire loading and damage, and vehicle deterioration. Gillespie and Sayers (1981) examined the relationship between road roughness and vehicle ride to illustrate the mechanisms involved and to reveal those aspects of road roughness that play the major role in determining the public's perception of road serviceability. It has been widely suspected that the initial roughness of a pavement section will affect its long-term performance. Recently, a study

conducted by Janoff (1990) *suggested* that initial pavement roughness measurements are highly correlated with roughness measurements made 8-10 years after construction.

Due to the importance of pavement roughness, most highway agencies have established smoothness specifications for new pavement construction. Smoothness specifications are normally written for the use of profilographs. About half of the states require that a specific limit of smoothness be met, whereas the remainder of the states are using a variable scale with pay adjustments, depending on the degree of the smoothness achieved (Woodstrom, 1990). These pay adjustment factors are made based on the assumption that lower initial pavement roughness will result in better pavement performance.

Currently, the Wyoming Department of Transportation (DOT) is one of the states which pays incentives for smooth pavements. When the initial profilograph index (PI) is 5.9 or below, an increased amount per unit (square yard) is paid. The basic breakdown for these incentive payments can be found in Table 1. The Wyoming DOT also requires corrective grinding on sections that have a PI index greater than 7 to ensure a comfortable ride to the users of the pavement sections.

Table 1. The Wyoming DOT's Construction Incentives Policy

Daily Average Profile Index	Percentage of Unit Price for Incentive Payment
2.0 or less	5.0
2.0 to 2.9	4.0
3.0 to 3.9	3.0
4.0 to 4.9	2.0
5.0 to 5.9	1.0
6.0 to 7.0	0.0
Greater than 7.0	Corrective grinding required

OBJECTIVES

The University of Wyoming and Wyoming DOT conducted a joint research project to examine the effect of initial smoothness of concrete pavements on roughness measurements collected after the sections have been in service for a few years. The main objective of this report is to present the preliminary findings of that research study.

CHAPTER 2

DESIGN OF EXPERIMENT

Figure 1 shows the overall data collection and analysis strategies followed in this research. In order to study the effect of initial smoothness on the long-term roughness of concrete pavement, all concrete sections built since 1986 in the state of Wyoming were included in the experiment. Older sections were not included simply because the Wyoming DOT does not keep pavement construction records for more than six years and these records are essential for obtaining profilograph measurements. After selecting the test sections, extensive construction and pavement performance data were collected on all test sections. These data were compiled in a computerized data base. Statistical analysis was later conducted on the data base to examine the assumption made by some pavement engineers that initial roughness measurements of concrete pavements are highly correlated with later measurements.

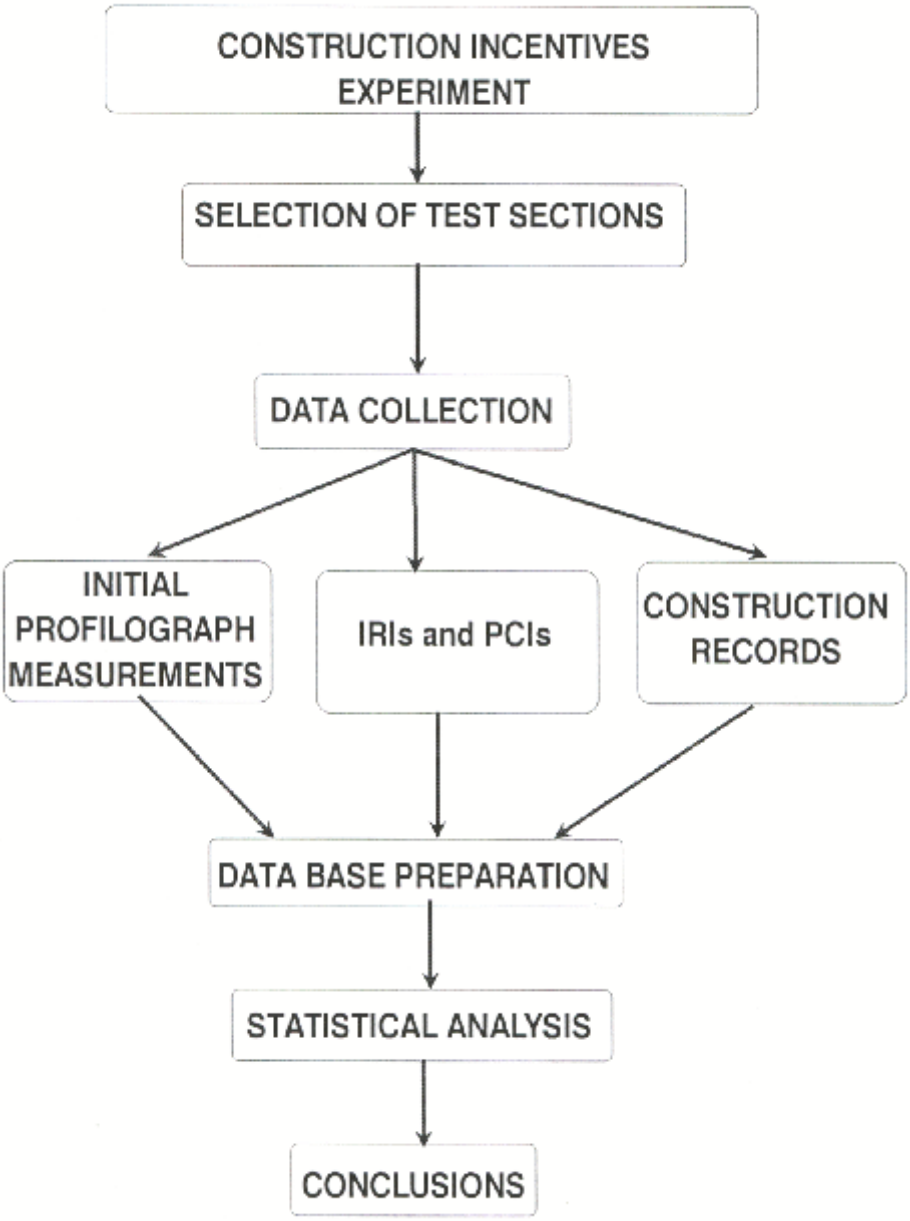

Figure 1. Data Collection and Analysis Strategies

CHAPTER 3

DATA COLLECTION

All data used in this research were extracted from the Wyoming DOT's data files and records. The first step in the data collection process was to examine the Wyoming Pavement Management System (PMS) to identify all concrete projects built in recent years. After the projects were selected, most of the information needed for this research was found in the Wyoming DOT construction records. This information included the following on each project: contract (proposal), profilograph reports, as-built drawings, completion reports, and maps of the project with corresponding stations and mileposts. This search resulted in eight relatively large concrete projects with all the necessary information to conduct meaningful analysis. Each project was later broken down into test sections based on profilograph measurements obtained immediately after construction. It should be mentioned here that each test section included the length of highway poured in one day. The eight projects were broken down into 175 test sections with variable PI values. Table 2 shows the location of each project and the number of test sections generated. The beginning and ending mileposts were later determined for each test section, based on the station numbers used during construction. This information is summarized in Appendix A. The completion reports were mainly used to determine the date each project was opened to traffic while the as-built drawings revealed the approximate thickness of the concrete layer.

After obtaining all initial construction information for all test sections, the International Roughness Index (IRI) values, Average Daily Traffic (ADT), Pavement Condition Index (PCI), and Equivalent Single Axle Loads (ESAL's) were obtained. The IRI and PCI data can be found in Appendices B and C, respectively. The IRI values were extracted from the Wyoming DOT computer files for the years 1989 through 1992. On the other hand, the ADT and truck traffic volumes were obtained from the Wyoming DOT traffic files. For the projects included in this report the ADT ranged between 3,010 vehicles per day and 7,229 vehicle per day, while the truck traffic ranged from 812 trucks per day to 2,043 trucks per day. The PCI values were calculated by using video logs and faulting data collected by the Wyoming DOT. All data obtained were later compiled in a comprehensive data base and prepared for analysis. Table 2 summarizes all construction and traffic information for all projects included in the experiment.

Table 2. General Information on Test Sections Included in The Experiment

Road	Milepost		ADT[1]	Truck Traffic per Day[1]	ESAL's per Day[1]	Date Opened To Traffic	Concrete Thickness	Number of Test Sections
	From	To						
I-80	92.4	101.7	6660	2043	2860	1986	12"	42
I-80W	258.6	275.6	3650	1661	2325	1991	11"	22
I-80W	212.4	216.2	3642	1645	2303	1990	11"	11
I-80E	212.4	216.2	3642	1645	2303	1992	11"	7
I-80	382.3	393.4	3010	1095	1533	1987	10"	39
I-80	372.4	378.1	3225	1108	1551	1988	10"	25
I-80	378.1	382.3	3035	1102	1543	1990	10"	17
I-25	185.3	188.4	7229	812	1137	1987	10"	12

[1]Based on 1991 data

CHAPTER 4

DATA ANALYSIS

A comprehensive data analysis was performed on the computerized data base. This comprehensive analysis included the following steps: a large number of charts were prepared to examine the rate of increase in roughness for test sections with variable initial PI's; a similar analysis was later performed on the PCI values; a comprehensive statistical analysis was conducted on the data to provide reliable and conclusive results.

Effect of Initial PI on the Rate of Increase in IRI

In order to evaluate the effect of initial PI on the rate of increase in roughness, test sections from each construction project were examined separately. This was done to ensure that all other factors such as environmental conditions, truck traffic, and number of years in service were identical for all test sections being analyzed. The test sections from each construction project were grouped into the following six categories depending on their initial PI: 0<PI<2, 2<PI<3, 3<PI<4, 4<PI<5, 5<PI<6, PI>6. These categories correspond to the categories used by the Wyoming DOT for construction incentives. After the sections were grouped, six charts were prepared for each project (one graph per category). Figure 2 shows typical graphs for one of the projects. The graphs showed a general upward trend as time passed. No differences were readily observed among the categories, indicating that within the roughness range considered in this study, a slightly rougher pavement section does not necessarily deteriorate faster than a slightly smoother pavement section.

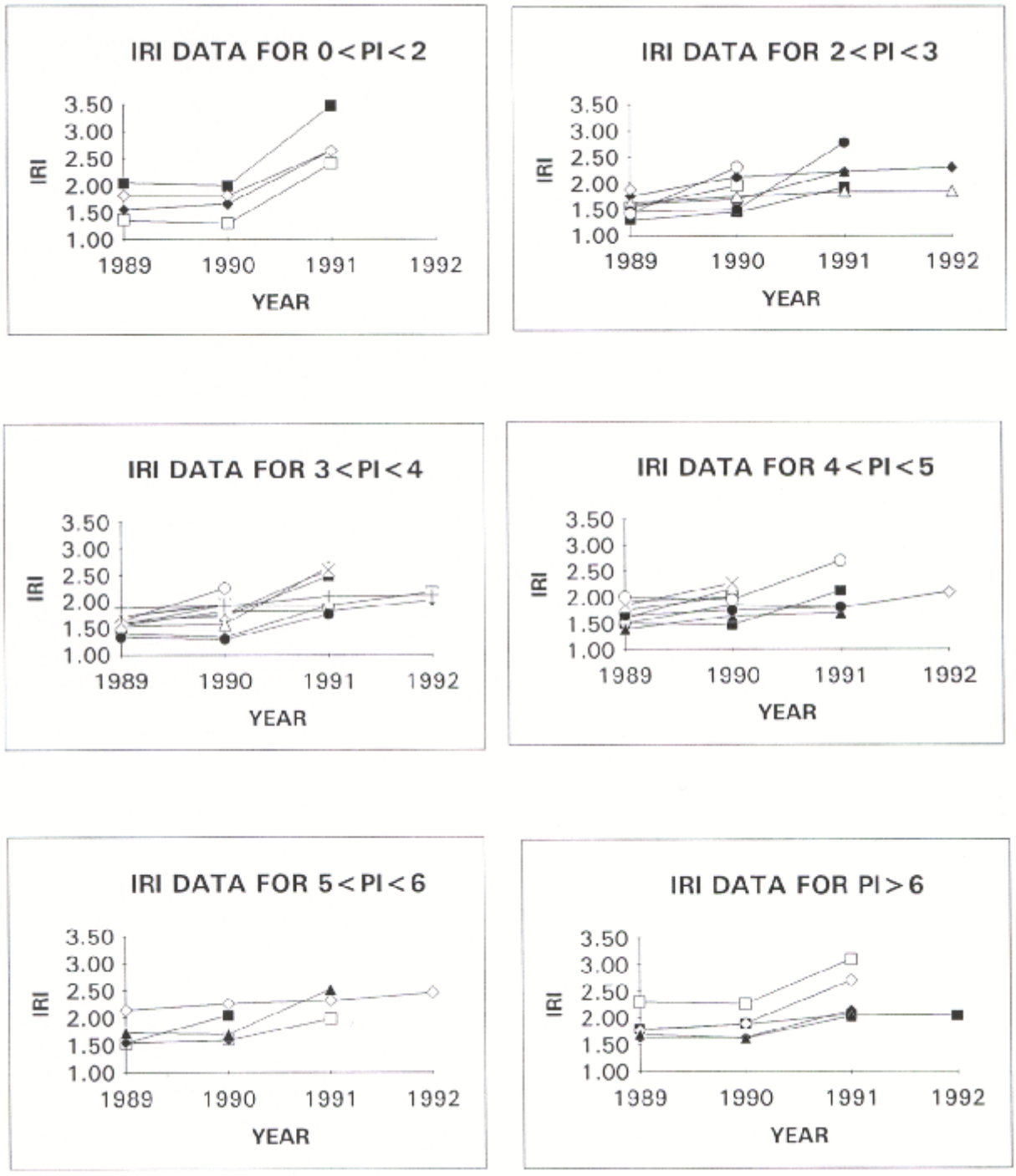

Figure 2. The Increase in Roughness for Pavement Sections with Variable Initial PI [I-80, MP 92]

Comprehensive statistical analysis was performed to verify the findings obtained from the charts described above. In this analysis, test sections from individual projects were broken down into three groups based on the following initial roughnesses:

Smooth:	0.00<PI<3.0
Normal:	3.01<PI<5.0
Rough:	PI>5.01

These three categories were chosen to obtain an adequate number of data points in each group. The Kruskal-Wallis Rank Test (Owen, 1962) was performed on the test sections from each project. This test is non-parametric and is based on the ranks of the observations. At times, due to the PI values of the test sections all being in only two of the three categories, the Kruskal-Wallis reduces to the Mann-Whitney (Wilcoxon) Two-Sample Rank Test (Owen, 1962).

For the projects in this study, either the Kruskal-Wallis test or the Mann-Whitney test were run on the samples obtained, depending on the number of categories available. As can be seen in Table 3, the Kruskal-Wallis test was run on all the 1989 IRI roughness data. This test showed that all categories were identical. In other words, there was no statistical difference in roughness among the groups even though the initial PI of the sections varied between 0 and 7 inches per mile. This same trend can also be seen in Tables 4, 5, and 6 for the 1990, 1991, and 1992 data respectively. For all these projects except one the results were the same. The 1992 data for the I-80 project at milepost 372.4 showed that the populations were different. Upon closer inspection it was found that this section had only five data points in two categories. The two points in the first category had initial PI values of 6.78 and 6.80 after being milled, while the second category had initial PI values of 3.30, 3.30, and 4.78. Because of the large initial PI differences and small number of data points, the Mann-Whitney test showed that the populations were different. Had more data points been available, the results probably would have fallen back into the identical population category. It should also be noted that no statistical analysis was performed on project I-80 milepost 382.3 because the entire project was exceptionally smooth when it was built. Of the thirty-nine test sections in this project, only three PI indexes were greater than three, with the highest being 3.8. This placed all data points from the project in the same smooth category.

Table 3. Results from Statistical Analysis Conducted on the 1989 Roughness Data

Road	MilePost		Test Performed	Statistical Analysis Value	Standard Value	Conclusion
	From	To				
I-80	92.4	101.7	K-W[1]	2.10	5.99	Identical
I-80	372.1	378.1	K-W	0.60	5.99	Identical
I-80	378.1	382.3	K-W	0.86	5.10	Identical
I-80[a]	382.3	393.4	None			
I-25	185.3	188.4	K-W	0.70	5.10	Identical

[a]All sections had low Profilograph Index (very smooth)
[1]Kruskal-Wallis test

Table 4. Results from Statistical Analysis Conducted on the 1990 Roughness Data

Road	MilePost		Test Performed	Statistical Analysis Value	Standard Value	Conclusion
	From	To				
I-80	92.4	101.7	K-W[1]	0.3	5.99	Identical
I-80	372.4	378.1	K-W	0.9	5.60	Identical
I-80	378.1	382.3	K-W	0.6	5.99	Identical
I-80[a]	382.3	393.4	None			
I-25	185.3	188.4	K-W	2.5	4.87	Identical

[a]All sections had low Profilograph Index (very smooth)
[1]Kruskal-Wallis test

Table 5. Results from Statistical Analysis Conducted on the 1991 Roughness Data

Road	Milepost		Test Performed	Statistical Analysis Value	Standard Value	Conclusion
	From	To				
I-80	92.4	101.7	K-W[1]	4.30	5.99	Identical
I-80W	212.4	216.2	K-W	2.60	4.86	Identical
I-80W	258.6	275.6	K-W	2.35	4.90	Identical
I-80	372.4	378.1	K-W	4.30	4.50	Identical
I-80	378.1	382.3	K-W	4.90	5.40	Identical
I-80[a]	382.3	393.4	None			
I-25	185.3	188.4	M-W[2]	4.00	0.00	Identical

[a]All sections had low Profilograph Index (very smooth)
[1]Kruskal-Wallis test
[2]Mann-Whitney test

Table 6. Results from Statistical Analysis Conducted on the 1992 Roughness Data

Road	Milepost		Test Performed	Statistical Analysis Value	Standard Value	Conclusion
	From	To				
I-80	92.4	101.7	K-W[1]	2.25	4.80	Identical
I-80E	212.4	216.2	K-W	4.70	5.10	Identical
I-80W	212.4	216.2	K-W	1.20	4.86	Identical
I-80W	258.6	275.6	K-W	0.97	4.90	Identical
I-80	372.4	378.1	M-W[2]	0.00	0.00	Different
I-80	378.1	382.3	M-W	2.50	1.00	Identical
I-80[a]	382.3	393.4	None			
I-25	185.3	188.4	M-W	4.50	0.00	Identical

[a]All sections had low Profilograph Index (very smooth).
[1]Kruskal-Wallis test
[2]Mann-Whitney test

Additional statistical analysis was performed to examine the relationship between sections that received corrective work after construction (milling) and sections which did not require any milling. In this analysis, all the test sections from the different projects were grouped together to get adequate data for analysis, and a t-test was performed (Hogg, 1992). All results from this analysis are summarized in Table 7. Although the 1989, 1990, and 1991 data were identical, the t-test showed that the populations were different in 1992. This indicates that milling probably will result in rougher pavements a few years after finishing construction.

Table 7. Results from the Statistical Comparison between Milled and Unmilled Sections

Year	Test Performed	Statistical Analysis Value	Standard Value	Conclusion
1989	t-test	0.60	1.658	Identical
1990	t-test	1.34	1.658	Identical
1991	t-test	1.18	1.660	Identical
1992	t-test	5.21	1.665	Different

The Effect of Initial PI on PCI

The PCI's for all test sections were determined by using the Wyoming DOT video logs and faulting data. Once the PCI's for all sections were calculated, they were stored in a computerized data base and prepared for analysis. The t-test was performed on the same three groups that were used in the Kruskal-Wallis test described earlier. An alpha level of 0.05 was used in the t-test. As shown in Table 8, the analysis indicates no statistical differences among the three roughness groups. Two of the projects had only one observation in group 1, so a t-test could not be performed using that group since there were no degrees of freedom. On the other hand, the sections at milepost 382 all fell into two categories, so the t-test was performed on groups 1 and 2 only. Also, the sections at milepost 212 east had no variance between groups 1 and 2. This was probably due to the small number of sections. Overall, the results from the PCI and IRI analysis support the fact that within the *roughness range* considered, achieving extra pavement smoothness does not result in better performance.

Table 8. Results of t-tests on PCI Values

Road	Milepost	Group	t	T Critical	Conclusion
I-80	92.4	1 vs 2	0.993	2.179	Identical
		2 vs 3	-0.224	2.201	Identical
		1 vs 3	0.897	2.201	Identical
I-80W	258.6[a]	2 vs 3	0.913	2.093	Identical
I-80W	212.4[a]	2 vs 3	-0.695	2.365	Identical
I-80E	212.4[b]	1 vs 3	1.342	3.182	Identical
		2 vs 3	0.668	2.093	Identical
I-80	382.3[c]	1 vs 2	1.748	2.026	identical
I-80	372.4	1 vs 2	1.634	2.12	Identical
		2 vs 3	0.133	2.109	Identical
		1 vs 3	1.788	2.262	Identical
I-80	378.1	1 vs 2	1.739	2.365	Identical
		2 vs 3	0.965	2.228	Identical
		1 vs 3	0.595	2.201	Identical
I-25	185.3	1 vs 2	-0.782	2.365	Identical
		2 vs 3	1.341	3.182	identical
		1 vs 3	-1.789	2.306	identical

[a]Only one observation in Group 1
[b]No variance between Group 1 and Group 2
[c]Only two groups

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Based on the extensive data analysis performed in this study, the following conclusions can be drawn:

a. When the initial roughness of concrete pavement is below 7 inches per mile, the rate of increase in roughness over the years is not significantly affected by initial roughness.

b. The Kruskal-Wallis and Mann-Whitney tests on the IRI data strongly support the above conclusion at 95 percent confidence level.

c. Preliminary results indicate that milled sections will show a higher level of roughness after being in service for a few years.

d. The analysis on the PCI data indicated that the slight variation in initial roughness between 2 and 7 inches per mile did not affect the PCI's of the sections.

RECOMMENDATIONS

Based on the above findings, it is clear that paying construction incentives may not be cost-effective. A more effective strategy would be to establish a maximum limit on PI (e.g. 7 in/mile). This limit will ensure adequate initial smoothness. On the other hand, since milled sections may show higher roughness after a few years of being in service, a penalty should probably be established for any corrective work done after measuring pavement smoothness.

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APPENDIX A

Profilograph Index Data

PROJECT NUMBER	ROAD NUMBER	MILE POST		PI BEFORE GRINDING	PI AFTER GRINDING
		FROM	TO		
IR-80-2(100)92	I-80E	92.80	92.38	4.80	
EASTBOUND	I-80E	93.21	92.80	2.80	
	I-80E	93.67	93.21	2.00	
	I-80E	94.16	93.67	3.10	
	I-80E	94.60	94.16	1.90	
	I-80E	94.94	94.60	6.50	
	I-80E	95.35	94.94	9.30	7.00
	I-80E	95.77	95.35	3.00	
	I-80E	96.21	95.96	3.80	
	I-80E	96.55	96.21	3.90	
	I-80E	97.03	96.55	2.00	
	I-80E	97.55	97.09	2.10	
	I-80E	98.04	97.55	2.00	
	I-80E	98.47	98.04	3.80	
	I-80E	98.83	98.47	3.60	
	I-80E	99.48	99.20	5.80	
	I-80E	100.23	99.55	7.00	
	I-80E	100.63	100.23	4.30	
	I-80E	101.08	100.63	6.70	
	I-80E	101.53	101.08	5.20	
WESTBOUND	I-80W	92.74	92.39	3.20	
	I-80W	93.22	92.74	2.10	
	I-80W	93.74	93.22	2.30	
	I-80W	94.28	93.74	2.50	
	I-80W	94.74	94.28	8.60	5.70
	I-80W	95.12	94.74	3.60	
	I-80W	95.57	95.12	4.60	
	I-80W	96.13	95.57	4.00	
	I-80W	96.74	96.13	3.30	
	I-80W	97.04	96.74	4.50	
	I-80W	97.62	97.09	4.80	
	I-80W	98.04	97.62	3.00	
	I-80W	98.36	98.04	4.50	
	I-80W	98.84	98.36	6.10	
	I-80W	99.34	98.93	2.80	

PROJECT NUMBER	ROAD NUMBER	MILE POST		PI BEFORE GRINDING	PI AFTER GRINDING
		FROM	TO		
	I-80W	99.78	99.47	4.50	
	I-80W	99.98	99.78	5.30	
	I-80W	100.37	99.98	4.30	
	I-80W	100.78	100.37	3.80	
	I-80W	101.09	100.78	4.50	
	I-80W	101.42	101.09	3.90	
	I-80W	101.69	101.42	5.10	
IR-80-4(164)259	I-80W	260.76	258.99	4.79	
WESTBOUND	I-80W	261.93	260.76	5.50	
	I-80W	262.32	261.93	8.67	6.70
	I-80W	263.12	262.32	4.61	
	I-80W	263.38	263.12	1.78	
	I-80W	263.61	263.38	9.64	6.20
	I-80W	264.44	263.65	14.28	6.40
	I-80W	265.46	264.44	4.10	
	I-80W	266.25	265.46	5.61	
	I-80W	267.15	266.25	7.75	6.25
	I-80W	267.94	267.22	5.08	
	I-80W	268.84	267.94	3.56	
	I-80W	269.27	268.84	6.00	
	I-80W	270.09	269.83	4.24	
	I-80W	271.11	270.09	6.68	
	I-80W	271.76	271.11	7.28	5.26
	I-80W	272.47	271.76	9.09	5.63
	I-80W	273.01	272.53	10.63	6.48
	I-80W	273.69	273.01	10.90	6.96
	I-80W	274.23	273.69	5.68	
	I-80W	275.11	274.23	5.37	
	I-80W	275.35	275.11	8.80	4.74
IR-80-4(178)212W	I-80W	212.71	212.45	4.18	
WESTBOUND	I-80W	213.07	212.77	3.58	
	I-80W	213.37	213.07	2.78	
	I-80W	213.69	213.37	3.47	
	I-80W	214.07	213.84	9.42	5.43

PROJECT NUMBER	ROAD NUMBER	MILE POST		PI BEFORE GRINDING	PI AFTER GRINDING
		FROM	TO		
	I-80W	214.26	214.07	7.81	5.53
	I-80W	214.68	214.26	13.09	5.72
	I-80W	214.95	214.68	4.34	
	I-80W	215.17	214.95	7.94	5.50
	I-80W	216.18	215.89	12.90	5.54
IR-80-4(181)212E	I-80E	212.44	212.70	5.00	
EASTBOUND	I-80E	212.76	213.10	2.13	
	I-80E	213.10	213.59	2.14	
	I-80E	213.59	213.85	5.68	
	I-80E	213.85	214.30	4.03	
	I-80E	214.35	214.76	4.75	
	I-80E	214.76	215.16	1.85	
	I-80E	215.22	216.02	8.03	6.27
IR-80-6(98)382	I-80W	383.35	382.91	0.71	
WESTBOUND	I-80W	383.75	383.38	2.23	
	I-80W	384.44	383.75	1.72	
	I-80W	384.95	384.44	1.05	
	I-80W	385.48	384.95	1.24	
	I-80W	386.00	385.48	2.05	
	I-80W	386.36	386.00	0.50	
	I-80W	386.90	386.42	1.11	
	I-80W	387.32	386.90	1.22	
	I-80W	387.78	387.32	0.81	
	I-80W	388.41	387.80	3.51	
	I-80W	388.97	388.41	2.92	
	I-80W	389.23	388.97	3.07	
	I-80W	389.74	389.23	2.19	
	I-80W	390.45	389.74	2.00	
	I-80W	391.00	390.45	1.44	
	I-80W	391.35	391.00	2.64	
	I-80W	392.02	391.41	1.61	
	I-80W	392.54	392.02	1.26	
	I-80W	393.07	392.54	1.52	
	I-80W	393.37	393.07	1.59	

PROJECT NUMBER	ROAD NUMBER	MILE POST		PI BEFORE GRINDING	PI AFTER GRINDING
		FROM	TO		
EASTBOUND	I-80E	382.00	382.48	1.01	
	I-80E	382.91	382.29	4.27	
	I-80E	382.48	383.06	1.28	
	I-80E	383.06	384.10	0.90	
	I-80E	384.10	384.77	0.62	
	I-80E	384.77	385.46	1.33	
	I-80E	385.46	386.10	1.94	
	I-80E	386.10	386.80	1.36	
	I-80E	386.80	387.78	0.87	
	I-80E	387.79	388.18	3.80	
	I-80E	388.72	388.17	2.15	
	I-80E	388.74	389.86	2.06	
	I-80E	389.85	390.34	2.33	
	I-80E	390.34	390.55	1.93	
	I-80E	390.55	391.35	2.76	
	I-80E	391.41	391.90	2.68	
	I-80E	392.54	392.03	1.40	
	I-80E	392.54	393.37	1.86	
IR-80-6(128)372	I-80E	373.05	372.42	3.76	
EASTBOUND	I-80E	373.50	373.05	4.04	
	I-80E	373.94	373.50	3.47	
	I-80E	374.45	373.94	3.43	
	I-80E	374.96	374.45	6.17	
	I-80E	375.35	374.96	5.09	
	I-80E	376.03	375.40	3.72	
	I-80E	376.59	376.03	6.06	
	I-80E	377.05	376.59	3.30	
	I-80E	377.33	377.14	3.30	
	I-80E	377.56	377.37	12.81	6.78
	I-80E	377.86	377.62	4.78	
	I-80E	378.07	377.86	7.96	6.80
WESTBOUND	I-80W	373.00	372.42	1.98	
	I-80W	373.50	373.00	1.89	
	I-80W	373.97	373.50	2.44	
	I-80W	374.30	373.97	3.99	

PROJECT NUMBER	ROAD NUMBER	MILE POST		PI BEFORE GRINDING	PI AFTER GRINDING
		FROM	TO		
	I-80W	374.88	374.30	3.79	
	I-80W	375.35	374.88	4.08	
	I-80W	375.80	375.40	5.85	
	I-80W	376.35	375.80	3.38	
	I-80W	376.91	376.34	3.01	
	I-80W	377.33	377.14	1.25	
	I-80W	377.37	377.57	5.30	
	I-80W	378.07	377.62	2.93	
IR-80-6(129)378	I-80E	378.09	378.36	3.23	
EASTBOUND	I-80E	378.36	379.00	5.62	
	I-80E	379.00	379.67	5.31	
	I-80E	379.67	380.34	3.85	
	I-80E	380.38	380.82	4.60	
	I-80E	380.82	381.55	5.07	
	I-80E	381.55	381.99	5.42	
WESTBOUND	I-80W	378.09	378.36	9.15	4.20
	I-80W	378.36	378.65	7.73	5.16
	I-80W	378.65	378.94	5.56	
	I-80W	378.94	379.35	2.39	
	I-80W	379.35	379.91	2.48	
	I-80W	379.91	380.34	1.60	
	I-80W	380.38	380.85	2.34	
	I-80W	380.85	381.39	3.74	
	I-80W	381.39	382.01	2.81	
	I-80W	382.01	382.27	7.06	4.13
IR-25-4(82)185	I-25S	185.65	185.38	0.37	
SOUTHBOUND	I-25S	186.42	185.95	1.35	
	I-25S	186.66	186.41	17.35	7.00
	I-25S	187.05	186.70	5.20	
	I-25S	187.48	187.05	1.45	
	I-25S	187.97	187.57	5.50	
	I-25S	188.14	187.80	4.37	
NORTHBOUND	I-25N	185.65	185.38	0.50	
	I-25N	186.40	186.03	3.29	
	I-25N	187.10	186.60	0.07	

PROJECT NUMBER	ROAD NUMBER	MILE POST		PI BEFORE GRINDING	PI AFTER GRINDING
		FROM	TO		
	I-25N	187.45	187.10	0.85	
	I-25N	188.10	187.58	0.98	

APPENDIX B

Roughness Data

PROJECT NUMBER	ROAD NUMBER	MILE POST		IRI				
		FROM	TO	1989	1990	1991	1992	1993
IR-80-2(100)92	I-80E	92.80	92.38	1.53	1.60	1.98	1.93	1.78
EASTBOUND	I-80E	93.21	92.80	1.64	1.64	2.14	1.90	1.98
	I-80E	93.67	93.21	1.50	1.48	2.13	1.90	1.93
	I-80E	94.16	93.67	1.77	1.89	2.71	2.20	2.13
	I-80E	94.60	94.16	1.73	1.70	2.53	2.13	2.20
	I-80E	94.94	94.60	1.40	1.33	1.93	1.50	1.97
	I-80E	95.35	94.94	1.54	1.58	2.66	1.58	2.02
	I-80E	95.77	95.35	1.36	1.30	2.40	1.34	2.05
	I-80E	96.21	95.96	1.30	1.45	1.92	1.33	1.86
	I-80E	96.55	96.21	1.56	1.66	2.64	1.74	2.13
	I-80E	97.03	96.55	1.60	1.77	2.60	1.90	1.98
	I-80E	97.55	97.09	1.33	1.30	1.77	1.40	1.70
	I-80E	98.04	97.55	1.46	1.50	2.78	1.42	2.08
	I-80E	98.47	98.04	1.70	1.63	2.03	1.73	2.30
	I-80E	98.83	98.47	2.30	2.27	3.10	2.47	2.63
	I-80E	99.48	99.20	2.05	2.00	3.48	2.05	2.65
	I-80E	100.23	99.55	1.68	1.73	2.48	1.75	2.23
	I-80E	100.63	100.23	1.82	1.82	2.64	1.72	2.52
	I-80E	101.08	100.63	1.60	1.70	2.23	1.60	2.40
	I-80E	101.53	101.08	2.00	1.96	2.70	1.82	2.25
WESTBOUND	I-80W	92.74	92.39	1.55	2.05	1.90	1.75	1.86
	I-80W	93.22	92.74	1.73	1.95	1.83	1.85	1.56
	I-80W	93.74	93.22	1.93	2.00	1.83	1.77	1.73
	I-80W	94.28	93.74	1.65	2.25	2.05	1.88	1.85
	I-80W	94.74	94.28	1.75	2.03	1.90	1.80	2.02
	I-80W	95.12	94.74	1.55	1.60	1.50	1.50	1.65
	I-80W	95.57	95.12	1.50	1.85	1.80	2.10	1.97
	I-80W	96.13	95.57	1.63	1.75	1.85	1.85	1.88
	I-80W	96.74	96.13	1.80	1.88	2.06	2.04	2.40
	I-80W	97.04	96.74	1.40	1.65	1.70	1.63	1.78
	I-80W	97.62	97.09	1.43	2.30	1.68	1.70	1.93
	I-80W	98.04	97.62	1.86	2.28	2.16	2.12	2.44

PROJECT NUMBER	ROAD NUMBER	MILE POST		IRI				
		FROM	TO	1989	1990	1991	1992	1993
	I-80W	98.36	98.04	1.60	2.17	2.03	1.87	2.20
	I-80W	98.84	98.36	1.55	1.82	1.82	2.03	2.10
	I-80W	99.34	98.93	1.88	1.92	2.10	2.12	2.18
	I-80W	99.78	99.47	1.66	1.76	1.82	1.74	2.02
	I-80W	99.98	99.78	1.73	1.93	1.77	1.97	1.87
	I-80W	100.37	99.98	2.14	2.26	2.32	2.46	2.52
	I-80W	100.78	100.37	1.88	1.80	1.90	1.80	2.22
	I-80W	101.09	100.78	1.76	2.12	2.22	2.30	1.83
	I-80W	101.42	101.09	1.54	1.95	1.73	1.95	1.53
	I-80W	101.69	101.42	1.57	1.93	1.93	2.18	2.20
IR-80-4(164)259	I-80W	260.76	258.99			3.40	2.50	2.15
WESTBOUND	I-80W	261.93	260.76			1.76	2.18	1.79
	I-80W	262.32	261.93			1.58	2.23	1.47
	I-80W	263.12	262.32			2.01	2.93	2.00
	I-80W	263.38	263.12			1.78	2.70	1.63
	I-80W	263.61	263.38			1.56	2.44	1.69
	I-80W	264.44	263.65			1.34	2.74	1.49
	I-80W	265.46	264.44			1.73	2.70	1.61
	I-80W	266.25	265.46			1.63	2.88	1.57
	I-80W	267.15	266.25			2.05	2.93	1.85
	I-80W	267.94	267.22			1.75	3.10	2.06
	I-80W	268.84	267.94			2.13	2.60	1.70
	I-80W	269.27	268.84			1.88	3.00	1.96
	I-80W	270.09	269.83			2.10	2.83	2.13
	I-80W	271.11	270.09			1.76	2.72	1.82
	I-80W	271.76	271.11			1.79	3.04	1.76
	I-80W	272.47	271.76			2.09	3.10	2.11

Blank Cell or N/A indicates data not available or section not built yet.

	I-80W	273.01	272.53			2.54	3.30	2.50
	I-80W	273.69	273.01			1.89	3.00	1.91
	I-80W	274.23	273.69			1.50	2.50	1.56
	I-80W	275.11	274.23			1.47	2.72	1.67

PROJECT NUMBER	ROAD NUMBER	MILE POST		IRI				
		FROM	TO	1989	1990	1991	1992	1993
	I-80W	275.35	275.11			2.05	3.25	2.10
IR-80-4(178)212W	I-80W	212.71	212.45			1.47	1.73	1.50
WESTBOUND	I-80W	213.07	212.77			1.95	3.60	2.30
	I-80W	213.37	213.07			1.67	3.37	1.80
	I-80W	213.69	213.37			1.40	2.75	1.65
	I-80W	214.07	213.84			1.55	2.65	1.85
	I-80W	214.26	214.07			1.57	2.70	1.87
	I-80W	214.68	214.26			1.27	2.80	1.63
	I-80W	214.95	214.68			1.20	2.07	1.50
	I-80W	215.17	214.95			1.30	2.27	1.37
	I-80W	216.18	215.89			1.73	2.47	1.45
IR-80-4(181)212E	I-80E	212.44	212.70				1.87	1.77
EASTBOUND	I-80E	212.76	213.10				1.48	1.45
	I-80E	213.10	213.59				1.68	1.90
	I-80E	213.59	213.85				1.84	2.00
	I-80E	213.85	214.30				1.77	1.55
	I-80E	214.35	214.76				1.43	1.43
	I-80E	214.76	215.16				1.08	1.10
	I-80E	215.22	216.02				1.58	1.50
IR-80-6(98)382	I-80W	383.35	382.91	1.52	2.36	1.86	1.74	1.86
WESTBOUND	I-80W	383.75	383.38	1.63	2.45	2.23	1.93	2.10
	I-80W	384.44	383.75	1.48	2.28	1.80	1.76	2.06
	I-80W	384.95	384.44	1.53	2.50	1.85	1.78	2.10
	I-80W	385.48	384.95	1.72	2.64	2.36	1.96	2.32
	I-80W	386.00	385.48	1.48	2.52	1.98	1.74	2.14
	I-80W	386.36	386.00	1.46	2.52	2.30	1.84	2.08
	I-80W	386.90	386.42	1.60	2.36	2.13	1.81	2.13
	I-80W	387.32	386.90	1.70	2.58	2.30	1.84	2.25
	I-80W	387.78	387.32	1.68	2.22	2.34	1.88	2.52
	I-80W	388.41	387.80	1.43	2.73	1.93	1.73	2.10
	I-80W	388.97	388.41	1.38	2.25	1.55	1.62	1.73
	I-80W	389.23	388.97	1.42	2.02	1.60	1.54	1.72

PROJECT NUMBER	ROAD NUMBER	MILE POST		IRI				
		FROM	TO	1989	1990	1991	1992	1993
	I-80W	389.74	389.23	1.48	2.35	1.68	1.65	1.83
	I-80W	390.45	389.74	1.60	2.13	1.78	1.68	1.88
	I-80W	391.00	390.45	1.53	2.30	1.58	1.50	1.73
	I-80W	391.35	391.00	1.53	2.26	1.73	1.53	2.06
	I-80W	392.02	391.41	1.52	2.28	1.50	1.56	1.96
	I-80W	392.54	392.02	1.60	2.60	1.75	1.65	2.00
	I-80W	393.07	392.54	1.55	2.45	1.57	1.65	2.02
	I-80W	393.37	393.07	1.92	2.77	1.98	2.00	2.10
EASTBOUND	I-80E	382.00	382.48	1.65	1.58	1.63	1.80	1.65
	I-80E	382.91	382.29	1.60	1.62	1.62	1.72	1.64
	I-80E	382.48	383.06	1.48	1.47	1.48	1.69	1.78
	I-80E	383.06	384.10	1.38	1.40	1.38	1.65	1.68
	I-80E	384.10	384.77	1.40	1.45	1.40	1.65	1.70
	I-80E	384.77	385.46	1.50	1.39	1.39	1.58	1.81
	I-80E	385.46	386.10	1.50	1.50	1.58	1.70	2.12
	I-80E	386.10	386.80	1.44	1.34	1.42	1.52	1.73
	I-80E	386.80	387.78	1.38	1.27	1.28	1.46	1.59
	I-80E	387.79	388.18	N/A	1.40	1.40	1.62	1.78
	I-80E	388.72	388.17	N/A	1.26	1.40	1.63	1.68
	I-80E	388.74	389.86	N/A	1.42	1.42	1.68	1.87
	I-80E	389.85	390.34	1.53	1.44	1.51	1.67	1.97
	I-80E	390.34	390.55	1.33	1.24	1.37	1.56	1.57
	I-80E	390.55	391.35	1.35	1.28	1.23	1.42	1.78
	I-80E	391.41	391.90	1.47	1.37	1.50	1.70	2.15
	I-80E	392.54	392.03	1.41	1.39	1.44	1.61	1.76
	I-80E	392.54	393.37	1.38	1.34	1.39	1.62	1.95
IR-80-6(128)372	I-80E	373.05	372.42	N/A	2.15	2.20	2.20	2.40
EASTBOUND	I-80E	373.50	373.05	N/A	1.75	1.85	2.20	2.15
	I-80E	373.94	373.50	N/A	1.35	1.50	1.80	1.60
	I-80E	374.45	373.94	N/A	1.50	1.45	1.55	1.75
	I-80E	374.96	374.45	N/A	1.58	1.73	2.00	1.98
	I-80E	375.35	374.96	1.55	1.45	1.48	1.63	1.67

PROJECT NUMBER	ROAD NUMBER	MILE POST		IRI				
		FROM	TO	1989	1990	1991	1992	1993
	I-80E	376.03	375.40	1.65	1.58	1.58	1.70	1.67
	I-80E	376.59	376.03	1.70	1.60	1.63	1.80	1.83
	I-80E	377.05	376.59	1.75	1.63	1.72	1.95	1.90
	I-80E	377.33	377.14	1.57	1.43	1.48	1.65	1.72
	I-80E	377.56	377.37	1.68	1.58	1.53	1.70	1.85
	I-80E	377.86	377.62	1.64	1.46	1.58	1.70	1.70
	I-80E	378.07	377.86	1.65	1.58	1.60	1.87	1.87
WESTBOUND	I-80W	373.00	372.42	2.40	2.70	2.60	2.05	2.55
	I-80W	373.50	373.00	1.94	2.48	2.40	1.64	2.05
	I-80W	373.97	373.50	2.45	2.55	3.05	2.07	3.00
	I-80W	374.30	373.97	2.05	2.67	2.12	1.80	2.75
	I-80W	374.88	374.30	2.10	2.52	2.10	1.60	2.86
	I-80W	375.35	374.88	2.45	2.90	2.88	2.10	3.05
	I-80W	375.80	375.40	2.13	2.67	2.10	1.82	2.92
	I-80W	376.35	375.80	1.70	2.53	1.73	1.60	2.63
	I-80W	376.91	376.34	1.86	2.50	2.00	1.64	2.86
	I-80W	377.33	377.14	1.76	2.58	2.24	1.72	2.74
	I-80W	377.37	377.57	1.43	2.56	1.83	1.55	2.23
	I-80W	378.07	377.62	1.88	2.52	2.08	1.96	3.10
IR-80-6(129)378	I-80E	378.09	378.36	N/A	1.36	1.40	1.60	1.58
EASTBOUND	I-80E	378.36	379.00	N/A	1.27	1.34	1.57	1.64
	I-80E	379.00	379.67	N/A	1.48	1.53	1.65	1.88
	I-80E	379.67	380.34	N/A	1.33	1.44	1.77	1.85
	I-80E	380.38	380.82	N/A	1.19	1.27	1.59	1.63
	I-80E	380.82	381.55	N/A	1.14	1.43	1.68	1.98
	I-80E	381.55	381.99	N/A	1.20	1.33	1.60	1.70
WESTBOUND	I-80W	378.09	378.36	1.43	2.37	2.20	1.47	2.50
	I-80W	378.36	378.65	1.57	2.47	1.80	1.50	1.93
	I-80W	378.65	378.94	1.57	2.27	1.73	1.53	1.67
	I-80W	378.94	379.35	1.48	1.80	2.05	1.40	2.48
	I-80W	379.35	379.91	1.42	2.12	2.08	1.34	2.52
	I-80W	379.91	380.34	1.40	2.00	1.70	1.36	2.05

PROJECT NUMBER	ROAD NUMBER	MILE POST		IRI				
		FROM	TO	1989	1990	1991	1992	1993
	I-80W	380.38	380.85	1.44	2.20	2.20	1.40	2.28
	I-80W	380.85	381.39	1.36	2.20	2.04	1.38	2.38
	I-80W	381.39	382.01	1.38	2.40	2.10	1.35	1.86
	I-80W	382.01	382.27	1.35	2.45	2.10	1.35	2.10
IR-25-4(82)185	I-25S	185.65	185.38	1.87	2.65	1.97	1.70	2.30
SOUTHBOUND	I-25S	186.42	185.95	1.55	1.72	1.55	1.60	1.73
	I-25S	186.66	186.41	1.40	1.35	1.40	1.73	1.95
	I-25S	187.05	186.70	1.60	1.63	1.60	1.73	1.83
	I-25S	187.48	187.05	1.80	1.95	1.90	2.15	2.10
	I-25S	187.97	187.57	1.98	2.04	2.02	2.14	2.10
	I-25S	188.14	187.80	1.90	1.87	1.97	1.90	2.03
NORTHBOUND	I-25N	185.65	185.38	1.78	1.62	1.88	1.90	1.84
	I-25N	186.40	186.03	1.47	1.50	1.77	1.95	1.88
	I-25N	187.10	186.60	1.66	1.72	N/A	1.76	1.86
	I-25N	187.45	187.10	1.73	1.60	N/A	2.03	1.93
	I-25N	188.10	187.58	1.76	1.80	1.80	2.03	2.73

APPENDIX C

Pavement Condition Data

PROJECT NUMBER	ROAD NUMBER	MILE POST		PCI
		FROM	TO	1993
IR-80-2(100)92	I-80E	92.80	92.38	97
EASTBOUND	I-80E	93.21	92.80	98
	I-80E	93.67	93.21	99
	I-80E	94.16	93.67	95
	I-80E	94.60	94.16	98
	I-80E	94.94	94.60	97
	I-80E	95.35	94.94	83
	I-80E	95.77	95.35	76
	I-80E	96.21	95.96	97
	I-80E	96.55	96.21	79
	I-80E	97.03	96.55	86
	I-80E	97.55	97.09	97
	I-80E	98.04	97.55	97
	I-80E	98.47	98.04	77
	I-80E	98.83	98.47	78
	I-80E	99.48	99.20	87
	I-80E	100.23	99.55	82
	I-80E	100.63	100.23	94
	I-80E	101.08	100.63	95
	I-80E	101.53	101.08	91
WESTBOUND	I-80W	92.74	92.39	N/A
	I-80W	93.22	92.74	N/A
	I-80W	93.74	93.22	N/A
	I-80W	94.28	93.74	N/A
	I-80W	94.74	94.28	N/A
	I-80W	95.12	94.74	N/A
	I-80W	95.57	95.12	N/A
	I-80W	96.13	95.57	N/A
	I-80W	96.74	96.13	N/A
	I-80W	97.04	96.74	N/A
	I-80W	97.62	97.09	N/A
	I-80W	98.04	97.62	N/A
	I-80W	98.36	98.04	N/A
	I-80W	98.84	98.36	N/A
	I-80W	99.34	98.93	N/A

PROJECT NUMBER	ROAD NUMBER	MILE POST		PCI
		FROM	TO	1993
	I-80W	99.78	99.47	N/A
	I-80W	99.98	99.78	N/A
	I-80W	100.37	99.98	N/A
	I-80W	100.78	100.37	N/A
	I-80W	101.09	100.78	N/A
	I-80W	101.42	101.09	N/A
	I-80W	101.69	101.42	N/A
IR-80-4(164)259	I-80W	260.76	258.99	99
WESTBOUND	I-80W	261.93	260.76	98
	I-80W	262.32	261.93	98
	I-80W	263.12	262.32	98
	I-80W	263.38	263.12	98
	I-80W	263.61	263.38	98
	I-80W	264.44	263.65	98
	I-80W	265.46	264.44	97
	I-80W	266.25	265.46	98
	I-80W	267.15	266.25	97
	I-80W	267.94	267.22	97
	I-80W	268.84	267.94	95
	I-80W	269.27	268.84	93
	I-80W	270.09	269.83	96
	I-80W	271.11	270.09	93
	I-80W	271.76	271.11	97
	I-80W	272.47	271.76	94
	I-80W	273.01	272.53	95
	I-80W	273.69	273.01	97
	I-80W	274.23	273.69	95
	I-80W	275.11	274.23	88
	I-80W	275.35	275.11	97
IR-80-4(178)212W	I-80W	212.37	216.19	1993
WESTBOUND	I-80W	212.71	212.45	97
	I-80W	213.07	212.77	99
	I-80W	213.37	213.07	99
	I-80W	213.69	213.37	98
	I-80W	214.07	213.84	99

PROJECT NUMBER	ROAD NUMBER	MILE POST		PCI
		FROM	TO	1993
	I-80W	214.26	214.07	98
	I-80W	214.68	214.26	99
	I-80W	214.95	214.68	99
	I-80W	215.17	214.95	98
	I-80W	216.18	215.89	99
IR-80-4(181)212E	I-80E	212.37	216.19	1993
EASTBOUND	I-80E	212.44	212.70	99
	I-80E	212.76	213.10	99
	I-80E	213.10	213.59	99
	I-80E	213.59	213.85	97
	I-80E	213.85	214.30	99
	I-80E	214.35	214.76	99
	I-80E	214.76	215.16	99
	I-80E	215.22	216.02	99
IR-80-6(98)382	I-80W	383.35	382.91	93
WESTBOUND	I-80W	383.75	383.38	96
	I-80W	384.44	383.75	97
	I-80W	384.95	384.44	93
	I-80W	385.48	384.95	97
	I-80W	386.00	385.48	96
	I-80W	386.36	386.00	98
	I-80W	386.90	386.42	98
	I-80W	387.32	386.90	96
	I-80W	387.78	387.32	97
	I-80W	388.41	387.80	94
	I-80W	388.97	388.41	96
	I-80W	389.23	388.97	94
	I-80W	389.74	389.23	87
	I-80W	390.45	389.74	97
	I-80W	391.00	390.45	92
	I-80W	391.35	391.00	98
	I-80W	392.02	391.41	98
	I-80W	392.54	392.02	96
	I-80W	393.07	392.54	95
	I-80W	393.37	393.07	92

PROJECT NUMBER	ROAD NUMBER	MILE POST		PCI
		FROM	TO	1993
EASTBOUND	I-80E	382.00	382.48	97
	I-80E	382.91	382.29	92
	I-80E	382.48	383.06	96
	I-80E	383.06	384.10	96
	I-80E	384.10	384.77	97
	I-80E	384.77	385.46	97
	I-80E	385.46	386.10	96
	I-80E	386.10	386.80	96
	I-80E	386.80	387.78	96
	I-80E	387.79	388.18	96
	I-80E	388.72	388.17	98
	I-80E	388.74	389.86	98
	I-80E	389.85	390.34	98
	I-80E	390.34	390.55	97
	I-80E	390.55	391.35	98
	I-80E	391.41	391.90	96
	I-80E	392.54	392.03	96
	I-80E	392.54	393.37	98
IR-80-6(128)372	I-80E	373.05	372.42	97
EASTBOUND	I-80E	373.50	373.05	98
	I-80E	373.94	373.50	97
	I-80E	374.45	373.94	97
	I-80E	374.96	374.45	93
	I-80E	375.35	374.96	98
	I-80E	376.03	375.40	95
	I-80E	376.59	376.03	96
	I-80E	377.05	376.59	92
	I-80E	377.33	377.14	96
	I-80E	377.56	377.37	96
	I-80E	377.86	377.62	94
	I-80E	378.07	377.86	N/A
WESTBOUND	I-80W	373.00	372.42	99
	I-80W	373.50	373.00	97
	I-80W	373.97	373.50	97
	I-80W	374.30	373.97	98

PROJECT NUMBER	ROAD NUMBER	MILE POST		PCI
		FROM	TO	1993
	I-80W	374.88	374.30	99
	I-80W	375.35	374.88	98
	I-80W	375.80	375.40	98
	I-80W	376.35	375.80	98
	I-80W	376.91	376.34	95
	I-80W	377.33	377.14	98
	I-80W	377.37	377.57	97
	I-80W	378.07	377.62	99
IR-80-6(129)378	I-80	378.08	382.29	1993
EASTBOUND	I-80E	378.09	378.36	92
	I-80E	378.36	379.00	92
	I-80E	379.00	379.67	94
	I-80E	379.67	380.34	95
	I-80E	380.38	380.82	96
	I-80E	380.82	381.55	96
	I-80E	381.55	381.99	98
WESTBOUND	I-80W	378.09	378.36	94
	I-80W	378.36	378.65	96
	I-80W	378.65	378.94	99
	I-80W	378.94	379.35	95
	I-80W	379.35	379.91	97
	I-80W	379.91	380.34	97
	I-80W	380.38	380.85	98
	I-80W	380.85	381.39	94
	I-80W	381.39	382.01	94
	I-80W	382.01	382.27	95
IR-25-4(82)185	I-25S	185.65	185.38	98
SOUTHBOUND	I-25S	186.42	185.95	99
	I-25S	186.66	186.41	99
	I-25S	187.05	186.70	99
	I-25S	187.48	187.05	99
	I-25S	187.97	187.57	99
	I-25S	188.14	187.80	99

PROJECT NUMBER	ROAD NUMBER	MILE POST		PCI
		FROM	TO	1993
NORTHBOUND	I-25N	185.65	185.38	97
	I-25N	186.40	186.03	98
	I-25N	187.10	186.60	98
	I-25N	187.45	187.10	96
	I-25N	188.10	187.58	98