FIELD EVALUATION OF ALTERNATIVE LOAD TRANSFER DEVICE LOCATIONS IN LOW TRAFFIC VOLUME PAVEMENTS

Iowa DOT Project TR-420

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16. Abstract

In jointed portland cement concrete pavements, dowel bars are typically used to transfer loads between adjacent slabs. A common practice is for designers to place dowel bars at a certain, consistent spacing such that a sufficient number of dowels are available to effectively transfer anticipated loads. In many cases, however, the standards developed today for new highway construction simply do not reflect the design needs of low traffic volume, rural roads.

The objective of this research was to evaluate the impact of the number of dowel bars and dowel location on joint performance and ultimately on pavement performance. For this research, test sections were designed, constructed, and tested in actual field service pavement. Test sections were developed to include areas with load transfer assemblies having three and four dowels in the outer wheel path only, areas with no joint reinforcement whatsoever, and full lane dowel basket assemblies as the control. Two adjacent paving projects provided both rural and urban settings and differing base materials. This report documents the approach to implementing the study and provides discussion and suggestions based on the results of the research.

The research results indicate that the use of single three or four dowel basket assemblies in the outer wheel path is acceptable for use in low truck volume roads. In the case of roadways with relatively stiff bases such as asphalt treated or stabilized bases, the use of the three dowel bar pattern in the outside wheel path is expected to provide adequate performance over the design life of the pavement. In the case of untreated or granular bases, the results indicate that the use of the three or four dowel bar basket in both wheel paths provides the best long-term solution to load transfer and faulting measurements.

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This project is the combined efforts of Iowa State University, the Iowa Department of Transportation, and the Iowa Highway Research Board. The researchers would like to acknowledge the Iowa Department of Transportation Office of Materials Special Investigations Unit for contributing their time and effort in collecting and analyzing specialized field data.

This research would not have been possible without the cooperation of the Union County Engineer's Office, the City of Creston, and the Fred Carlson Co. and staff. This is another example of how the construction industry benefits from cooperative research efforts.

INTRODUCTION

Background

In the field of concrete paving, slab joints continue to be an important consideration in the construction and long-term performance of concrete pavements. The use of transverse joints in portland cement concrete (PCC) pavements was developed in the early 20th century as a method for controlling the development of random cracking due to the stresses induced by moisture and thermal gradients, and to restrain slab movement while providing for expansion and contraction within the concrete slab. Research has demonstrated the need for some type of positive load transfer across transverse joints to minimize faulting, or uneven vertical movement between slabs.

Aggregate interlock, which uses shear resistance between adjacent slabs, occurs naturally as the simplest means of load transfer. The rough vertical interface formed when a crack develops at a joint, provides a shear resistance through the coarse aggregate and cement mortar that transfers a load from one slab to another. However, the long-term effectiveness of aggregate interlock is heavily dependant on joint width, load magnitude, aggregate properties, and time of fracture at the joint. As the magnitude of loads and/or joint opening increases, the ability of crack faces to resist shear forces is decreased by crushing and sliding of the coarse aggregates and cement mortar. As a result, pavements that rely solely on aggregate interface for load transfer are more susceptible to pumping, faulting, and reduced load transfer in environments where there is a weak sub-base, heavy precipitation, and/or increased loading from traffic. Therefore, a specialized method of load transfer was developed in response to these weaknesses.

Pavement designers found that the weaknesses within transverse joints could be strengthened through the use of mechanical load transfer devices, designed to transfer the load across the joint from one pavement slab to the next. Designers adopted the use of round, steel dowel bars spaced at regular intervals across the transverse joint to distribute vehicle loads both longitudinally and transversely across the joint as a means of mechanical load transfer. The common practice throughout the United States is to place dowel bars at regular spacing such that a sufficient number of dowels are available to effectively transfer anticipated loads.

As the size and weight of trucks have increased, the design of portland cement concrete pavements has changed. Pavement depths have increased, transverse joint spacing has decreased, and the need for positive load transfer across transverse joints has increased. Much research has been done by the American Concrete Paving Association, the Portland Cement Association, and faculty from the University of Illinois, Michigan State University, and the University of Minnesota to determine the optimum diameter and spacing of metallic dowel load transfer devices in pavements for heavy truck traffic. The results of this research have been applied to all levels of traffic with little knowledge of the benefits that are being gained versus traffic level and construction cost. In many cases, the standards developed for typical highways simply do not reflect the design needs of low traffic volume, rural roads. Reducing the number of dowel bars in each joint could provide significant savings for highway departments on a limited budget without sacrificing the effective load transfer of joints.

This report is the last of three reports issued on the field evaluation of alternative load transfer device locations in low traffic volume pavements. It documents the performance of pavement test sections constructed with no dowel bars in the transverse joints, three or four dowel bars strategically placed in only the outer wheel paths of the pavement at the transverse joints, and full dowel baskets (12 bars) placed within each transverse joint. The test site location, dowel bar arrangements, and details of the location are identified, along with biannual test results from the fall of 1998 through the spring of 2003. This report documents the results of deflection, joint opening, and visual distress surveys as they relate to the objectives of the research. The report also identifies and compares the first five years of performance of the various dowel arrangements and provides recommendations based on the results of the research.

Research Objectives

This research was designed to evaluate the potential for reducing the number of dowels in a given transverse joint and look at the benefits of strategically placing them in only the outer wheel path of the pavement. In many states, dowels of a given diameter have been placed at 12-inch intervals across the entire joint width to reduce or eliminate the potential for joint faulting over the course of the pavement's design life. Faulting is more evident near the outside or free edges of the pavement due to a loss of support and aggregate interlock. The centerline tie bars appear to add support near the inner wheel path in each lane as do tied concrete shoulders near the outer edges. Thickened edge construction, addition of adequate shoulder support, and positive drainage have also contributed to reduced faulting at the joints.

The objectives of the research focused on the field evaluation of the performance of this pavement over the first five years of its service life:

1. Evaluate the impact of dowel location in the outer wheel path on pavement performance in terms of distress, deflections, and load transfer.
2. Evaluate the impact of the number of dowels or lack of dowels in a transverse joint on the pavement performance in terms of distress, deflections, and load transfer.

Specifically, this research was directed at analyzing the load transfer characteristics of (a) no dowel bars, (b) three dowel bars in the outside wheel path, (c) four dowel bars in the outside wheel path, and (d) full basket of dowel bars (i.e., 12 dowel bars) as the experimental control and current standard. This research sought to evaluate field performance of experimental dowel bar arrangements and provide subsequent recommendations on the need for mechanical load transfer mechanisms in low traffic volume pavements. The project included monitoring the installation of the dowel bars during construction, conducting visual distress surveys after construction, and evaluating pavement performance as means for thorough research.

Research Approach

The project duration extended over a five-year period from the fall of 1998 through the spring of 2003. The five-year duration was selected to allow for the use of the pavement and provide assessment of both the traffic and environmental impacts on the performance of the joints.

Year 1, first summarized in the construction report of December 1999, involved the installation of dowel bars in the field according to the layout outlined in Tables 1 and 2. The particular projects selected for the field research, Union County H33 (L-P-298—73-88) and Union County P33 (STP-S-88(25)—5E-88) near Creston, Iowa, provided the opportunity needed to fulfill the research objectives through allowing a comparison of the dowel location implementation and two different base types. Test section length accounted for approximately 0.15 miles (0.24 km) of the 1.37-mile (2.21 km) H33 PCC paving project and approximately 0.30 miles (0.49 km) of the 6.44-mile (10.36 km) P33 PCC paving project. The construction project's contractor, the Fred Carlson Co. of Decorah, Iowa, provided the resources necessary to implement the research. The combination of projects provided the opportunity to evaluate the pavement performance of pavements of two depths and base types.

Years 2–5 provided an evaluation period through which the performance of the pavement could be monitored. Project test sections were tested twice a year, beginning in the fall of 1998, with the final tests in the spring of 2003. Some testing could not be performed in the fall of 2000. The biannual testing was performed once in the spring, March or April, to represent the weakest foundation condition and once in late summer, August or September, to typify a relatively dry foundation. All tests were conducted during similar times of the day to ensure comparable results.

The testing consisted of performing Road Rater deflection tests, measuring joint faulting, monitoring joint movement, and conducting a visual distress survey in accordance with the Strategic Highway Research Program (SHRP). Under the direction of the principal investigator, research staff from Iowa State University and the Iowa Department of Transportation (Iowa DOT) provided the support necessary for the testing program.

The Iowa DOT Office of Materials Special Investigations Unit obtained Road Rater deflection data with the remainder of the tests performed concurrently by Iowa State University research staff. The interim report of August 2001 documented preliminary results of such testing through the spring of 2001. This final report provides a comprehensive summary of the project's research, including installation, evaluation, and subsequent conclusions and recommendations.

TESTING PROGRAM

Location, Construction History, and Layout

The testing was conducted on two adjacent locations in Union County near Creston, Iowa. The first project (L-P-298—73-88) was located on Union County H33 along the north and east city limits of Creston, Iowa, and will hereafter be referred to as the "Urban" test site. The second project (STP-5-88(25)—5E-88) was located on Union County P33 from U.S. Highway 34, south to Union County H45, and will hereafter be referred to as the "Rural" test site. The location of both the Urban and Rural test sites is shown in Figure 1.

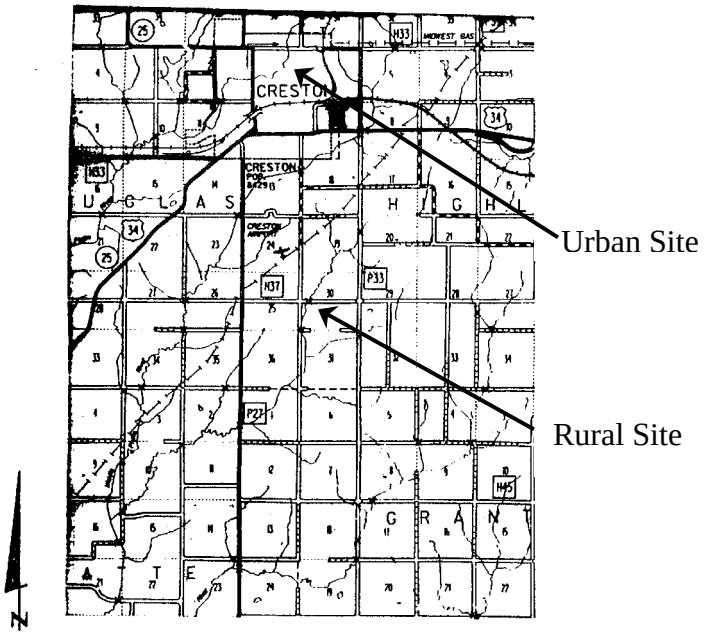

Figure 1. Project Site Map

Both the Urban and Rural projects included the installation of sub-drains to provide positive drainage and consisted of 20-foot transverse joint spacing and skewed (6:1) joints as shown in Figure 2. The typical cross section for the projects can be found in Figure A.1 (see Appendix A).

Urban Test Site

The Urban test site consisted of the construction of a 1.37-mile, 10-inch depth of portland cement concrete over an existing bituminous pavement that was the result of a series of seal coats and blade laid cold mix type material layers of approximately 1.5 inches in depth, the first layer of which was placed in 1966 over a six-inch rolled stone base. At the time of construction, the asphalt base exceeded eight inches in depth throughout the project, showed considerable rutting, and was not trimmed prior to paving. Earth shoulders were constructed a month before paving and dowel baskets were fastened directly to the asphalt base.

The Urban site consists of 802 feet of pavement divided into four different test sections. The eastbound lane is within the Creston city limits and the westbound lane is under Union County jurisdiction. One test section contains no dowel bars across the westbound lane and a full basket in the eastbound lane. (Due to concerns over potential costs to repair failed test sections, the City of Creston elected not to build any sections with no dowel bars in the eastbound lane under their jurisdiction.) Another test section contains the standard dowel bar configuration (12-inch center-to-center spacing, offset 6 inches from the edge of the pavement). The remaining two test sections consist of dowel bars placed only in the outside wheel path (12-inch center-to-center spacing, offset 6 inches from the edge of the pavement), one section with three dowel bars, the other with four dowel bars. The location and number of dowel bars per joint per lane for each test section are detailed in Table 1 with typical dowel bar placement for each test section shown in Figure 2.

Table 1. Stationing and Dowel Bar Arrangement for Urban Test Section

Begin Station	End Station	Number of Dowels	Location	Number of Joints
72+00	73+80	No dowels*	—	10
74+00	76+00	3 dowels	Outside wheel path	11
76+20	78+00	4 dowels	Outside wheel path	10
78+20	80+02	Full basket	Full joint width	10

* Full basket in eastbound lane.

Rural Test Site

The Rural site consisted of the construction of 6.44 miles of nine-inch deep portland cement concrete constructed on a compacted soil base with 2-4 inches of gravel in place since the original grading was completed in 1994. An “Iowa Special” was used on this project in advance of the slip-form paver to trim the cross section and minimize the impact of the loaded trucks on the sub-grade. The “Iowa Special” is a trimmer outfitted with a conveyor and hopper system designed to receive concrete, convey it over the trimmer, and deposit in front of the slip-form paver.

The Rural site consists of 1,596 feet of continuous pavement also divided into four different test sections. One test section contains no dowel bars across the entire transverse joint. Another test section contains the standard dowel bar configuration (12-inch center-to-center spacing, offset 6 inches from the edge of the pavement). The remaining two test sections consist of dowel bars placed only in the outside wheel path (12-inch center-to-center spacing, offset 6 inches from the edge of the pavement), one section with three dowel bars, the other with four dowel bars. The location and number of dowel bars per joint per lane for each test section are detailed in Table 2 with typical dowel bar placement for each test section shown in Figure 2.

Table 2. Stationing and Dowel Bar Arrangement for Rural Test Section

Begin Station	End Station	Number of Dowels	Location	Number of Joints
178+00	181+80	No dowels	—	20
182+00	185+80	3 dowels	Outside wheel path	20
186+00	189+80	4 dowels	Outside wheel path	20
190+10	193+96	Full basket	Full joint width	20

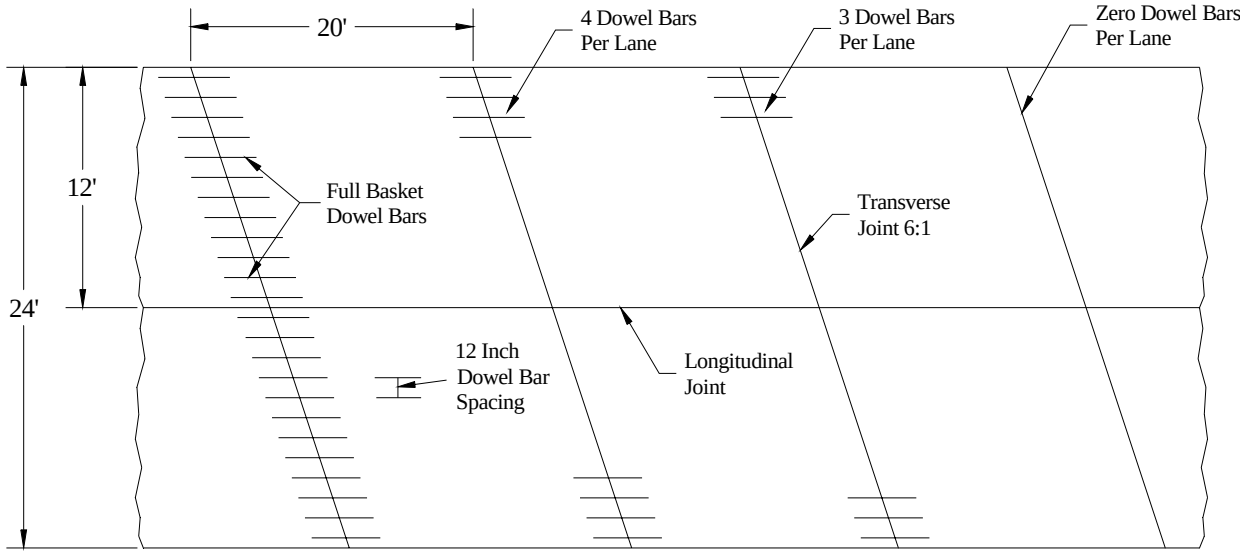

Figure 2. Typical Dowel Bar Placement

Soils and Base Types

Urban

Based on soil surveys taken by the U.S. Department of Agriculture, the composition of the local soil is primarily of the Winterset Association. Of loess origin, this silty clay loam soil is poorly drained and considered "moderate" in terms of its suitability for road construction. This soil generally exhibits low strength, moderate shrink/swell properties, and moderate freeze/thaw action. Corrosion to concrete due to the chemistry of this soil type is also considered to be moderate. This series carries an American Association of State Highway Transportation Officials (AASHTO) classification of A-7 and a Unified Soil Classification System (USCS) classification of CL, OL, and/or CH.

Rural

Based on soil surveys taken by the U.S. Department of Agriculture, the composition of the local soil is primarily of the Nira-Sharpsburg, Clearfield, and Sharpsburg Associations. Of loess origin, these silty clay loam soils are moderately to poorly well drained and considered "moderate" in terms of their suitability for road construction. These soils generally exhibit low strength, moderate shrink/swell properties, and moderate freeze/thaw action. Corrosion to concrete due to the chemistry of these soil types is also considered to be moderate. These series commonly carry an AASHTO classification of A-6 or A-7 and a USCS classification of CL, OL, CH, and/or OH.

Climate Conditions

Climate conditions and weather patterns over the research period were obtained through the National Climactic Data Center's online weather data inventory (http://www.ncdc.noaa.gov/oa/ncdc.html). The data sets were taken from a weather observation station managed by the National Weather Service near Creston, Iowa. Though the station is not located immediately adjacent to the test site, its close proximity to the project allows for a general understanding of local weather patterns and future comparisons between pavement distress and climatic extremes. Precipitation data were not available at the Creston site; rather, the rainfall amounts were recorded at the nearby Corning, Iowa, weather station. It should be noted that no distress was noted at the test site that can be attributed to climate at this time. Data tables displaying monthly precipitation averages and temperature extremes can be found in Tables B.1 through B.5 in Appendix B.

Traffic Data

Loads, along with the environment, damage pavement over time. The simplest pavement structural model asserts that each individual load inflicts a certain amount of unrecoverable damage. This damage is cumulative over the life of the pavement and when it reaches some maximum value the pavement is considered to have reached the end of its useful service life. It should be noted that no distress was noted at the test site that can be attributed to traffic loadings at this time. The estimated amount of average annual daily traffic (AADT) for the test sites (both lanes), as developed from 2000 Iowa DOT traffic counts, is listed in Table B.6 in Appendix B.

Deflections

Measuring the deflection at joints provides a direct indication of joint performance and the effectiveness of various load transfer mechanisms. For this project, Road Rater deflection tests were conducted biannually by the Iowa DOT's Office of Materials Special Investigations Unit. The Road Rater is a trailer-mounted machine (see Figure 3) that uses non-destructive testing methods to measure the response of a pavement section to a dynamic load similar in magnitude to that produced by the tires of a moving vehicle. A load is hydraulically lowered to the pavement and oscillated to produce a loading force. The loading force is determined by the following equation:

$$F = 32.70 * f^2 D$$

where F = peak-to-peak force (lb)
f = loading frequency (Hz)
D = peak-to-peak mass displacement (inch)

A force setting of 30 Hz and mass displacement of 0.068 inches are recommended for a rigid pavement, which produces a peak-to-peak force of 2,000 pounds.

Testing for this project was performed at joints and mid-panels of each lane in both the outside and inside wheel paths, 2 feet (0.6 m) from the outer edge of the pavement, and one foot (0.3 m) from the centerline. Road Rater tests used four velocity sensors placed at 0, 12, 24, and 36 inches (0, 305, 710, and 914 mm) from the center of the load plate.

Ultimately, the results of the Road Rater testing were interpreted through calculating the load transfer efficiency at each joint. Load transfer efficiency for this project is defined as the ratio of the deflection of an unloaded pavement to that of the adjacent loaded pavement, denoted as a percentage. The deflection load transfer efficiency was measured with the Road Rater by placing the load plate at the edge of the pavement section so only one of the slabs was loaded. Velocity sensors were placed equidistant from the joint, and with one under the load on the approach side of the joint and the remainder on the leave side of the joint and spaced at 12-inch intervals. The resulting deflections measured by the Road Rater on this project were used to determine the load transfer efficiency at each joint for each dowel arrangement and project location. The resulting assessment based on statistical analysis of the load transfer efficiency as derived from the Road Rater deflections is outlined in the "Analysis and Results" section, with actual test data in Appendix B.

Figure 3. Road Rater

Faulting

The Georgia fault-meter was used to measure faulting at the inside and outside wheel paths of each lane (see Figure 4). The digital readout of the fault-meter indicates positive or negative faulting in millimeters. To obtain the readings, the fault-meter was set on the pavement in the direction of traffic, on the "leave side" of the joint, and the measuring probe was in contact with the approach slab. Movement of the probe was then transmitted to a linear variance displacement transducer (LVDT) to measure the difference in elevation between the two sides of the joint or amount of faulting. A slab that is lower on the leave side of the joint indicates positive faulting, and a slab leaving the joint that is higher will register as a negative fault. Faulting was measured in both the inside and outside wheel-paths of the driving lane at 30 inches (762 mm) and 18 inches (457 mm) from the centerline and edge, respectively. Results of the faulting measurements are discussed in the "Analysis and Results" section, with actual measurement data in Appendix B.

Figure 4. Georgia Fault-meter

Joint Openings

For the purpose of monitoring the transverse joint opening, surveyor mag-nails were placed in the wet concrete (flush with the surface) on either side of joints in the outside lane to serve as a point of reference for measurement. See Figure 5. Transverse joint movement was monitored at each joint with nails set into the concrete within the first hour of paving 12 inches (305 mm) in from the edge of the slab with 10 inches (254 mm) between nails (5 inches [127 mm] offset

either side of the joint). Initial measurements between the nails shortly after the paving served as a benchmark for future joint movement. Joint opening measurements were made at the same time as the biannual faulting and visual distress surveys. Measurements from each joint opening survey can be found in Appendix B, and graphs displaying the trends are in Appendix C.

Figure 5. Calipers and Surveyor Nails (Nails Not Installed)

Visual Distress Surveys

Visual distress surveys were performed concurrently with the biannual joint opening and faulting measurements by Iowa State University research staff. Completed in accordance with SHRP, the visual distress surveys consisted of a visual evaluation of the pavement surface for any signs of horizontal slab movement, spalling, or cracking. A discussion of the survey's results can be found in the "Analysis and Results" section.

ANALYSIS AND RESULTS

Deflection Measurements

Load Transfer Efficiency

As stated earlier, determination of the load transfer efficiency of each joint was based on deflections measured by the Road Rater. Load transfer efficiency for this project is defined as the ratio of the deflection of an unloaded pavement to that of the adjacent loaded pavement, denoted as a percentage as follows:

$$\%LoadTransfer = \frac{Sensor2}{Sensor1} * 100\%$$

where Sensor 1 = Deflection at sensor 1 on the approach side of the joint in mils
Sensor 2 = Deflection at sensor 2 on the leave side of the joint in mils

The load transfer efficiency calculated for a given joint provides a direct indication of joint performance. The extent to which load transfer mechanisms (dowel bars) transferred a load between adjacent slabs, as exhibited by load transfer efficiency, allowed researchers to determine the effectiveness of various dowel bar configurations. The results of the load transfer analysis for both test sites are illustrated in Figure 6 of the following page and Figures C.1 through C.8 in Appendix C with actual numbers in Tables B.8 through B.15 of Appendix B. The original results from the Road Rater tests are presented in Table B.7 (Appendix B).

Statistical Analysis

Before inferences can be made on the effectiveness of various dowel bar configurations in providing load transfer, a statistical analysis of the results was necessary to determine the significance of any differences in dowel performance. Inferential statistics determine the reliability of test results and give researchers a better discernment for whether observed differences are notable or merely created by random error.

T-tests were conducted to compare deflection data means with Statistical Analysis System (SAS) software in order to determine possible statistical significance. In addition, a general linear model regression was performed and a multiple comparison was useful in comparing the effects of dowel bar arrangements, season, travel lane, and wheel path on load transfer efficiency.

The independent variables designated for this research were dowel bar arrangement (location and number of dowels across the joint), position within the driving lane (inside or outside wheel paths), lane direction (east or west for the Urban site, and north or south for the Rural site), and time (season and accumulation of time). The dependant variable was load transfer efficiency (based on Road Rater deflection results). The null hypothesis for each case would state that there was no true difference between the effects of the independent variables on the dependant variable. The significance level, or alpha level, through which the null hypotheses could be rejected, was 0.05. In other words, any conclusions developed concerning differences in dowel performance were made with 95% confidence that such variance was not the result of random error. T-tests determine which, if any, independent variables had a significant effect on the dependent variable. They do not, however, measure the strength of an association or determine which dowel arrangements are ideal; rather, t-tests establish if indeed the certain dowel arrangements have a statistically significant effect on load transfer. Regardless of independent observation, only differences deemed to be statistically significant can be considered as legitimate. Table 3 outlines the results of the statistical analysis.

Table 3. Average Load Transfer Efficiency Statistical Results

		Sample Size	Difference in Load Transfer Efficiency (%)	t-test Significance	Statistically Significant?
Urban		1631			
	Season			0.4306	No
	Wheel path			0.3642	No
	Direction			0.9743	No
	Dowel arrangement			0.6813	No
	Between 0 and full dowels		16.97	1.0000	No
	Between 3 and full dowels		4.27	1.0000	No
	Between 4 and full dowels		19.40	1.0000	No
	Between 0 and 3 dowels		12.70	1.0000	No
	Between 0 and 4 dowels		2.42	1.0000	No
	Between 3 and 4 dowels		15.12	1.0000	No
Rural		2988			
	Season			0.0002	Yes
	Wheel path			0.0416	Yes
	Direction			0.7263	No
	Dowel arrangement			0.0003	Yes
	Between 0 and full dowels		37.08	0.0001	Yes
	Between 3 and full dowels		11.24	0.0021	Yes
	Between 4 and full dowels		17.59	0.0001	Yes
	Between 0 and 3 dowels		25.84	0.0001	Yes
	Between 0 and 4 dowels		19.48	0.0001	Yes
	Between 3 and 4 dowels		6.36	0.2542	No

Statistical Results

The results of the statistical analysis, as illustrated in Table 3, indicate a significant difference in the performance of the urban and rural test locations. This may be due to the presence of shoulders, or variation in traffic volume; more than likely, however, it was due to the differences in sub-base. As such, it is practical to consider the results of each project separately.

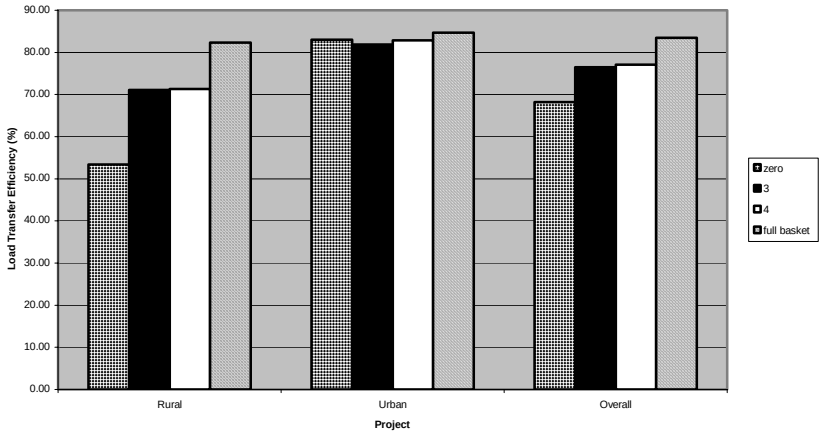

Figure 6. Average Load Transfer Efficiency

Urban

For the Urban project, as confirmed by inspection of the actual numbers and the graph in Figure 6, the statistical analysis shows none of the independent variables (season, wheel path, direction, and dowel arrangement) as having a significant impact on load transfer efficiency. From this, a conclusion may be drawn that the number or arrangement of dowel bars does not significantly affect load transfer in this situation. Further, the statistical comparison between each of the dowel combinations revealed no difference between 0, 3, 4, or 12 bars, indicative that the presence of the stronger base was helpful in providing support when compared to that of the rural test section.

Though the graphs in Figures C.1 through C.4 (Appendix C) show some differences with respect to the travel lane, wheel path, and season, the variances are not statistically significant and cannot be considered as having a significant effect on load transfer for the urban project. It would be wise to note, however, that a visual inspection of the graphs in Appendix C does indicate a potential trend for the small (statistically *in*significant) difference between the performance of no dowels versus that of a full dowel basket to be increasing over time. As such, three dowel bars located in the outer wheel paths seem to suffice for proper load transfer.

Rural

The Rural project, however, yielded considerably different results. The statistical analysis, also illustrated in Table 3, showed that season, wheel path, and dowel arrangement each had a significant impact on load transfer. An inspection of Figures C.5 through C.8 in Appendix C show that load transfer efficiency often diminished during the spring months and varied considerably from season to season as time progressed. Further, load transfer fell considerably lower at the inner wheel paths for the 0, 3, and 4 bar configurations—i.e., situations where no reinforcement existed at the inner wheel path. This indicated that the absence of a stronger, bituminous base such as that in the urban section has a significant impact on the effectiveness of limited dowel bar application.

The statistical analysis also found that a significant difference existed between the performance of every dowel bar configuration with the exception of wheel path baskets (3 bars versus 4 bars). Trends in Figure 6 and Figures C.5 through C.8 mirror these findings and provide a clear comparison of dowel bar performance. Though the comparable performance of the 3 and 4 bar wheel path baskets showed improvement over that of zero bars, it was significantly lower than that of a full basket and well below acceptable levels of dowel bar performance. Through the inspection of these graphs and the statistical analysis, a conclusion may be reached that without the support of a firmer base, reducing the number of bars in each joint to 0, 3, or 4 bars has a detrimental impact on load transfer over time.

It should be noted, however, that the deficiencies of the wheel path baskets could be largely attributed to extremely poor performance at the inner wheel path. It is likely that the addition of a second wheel path basket at the inner wheel path could be done in a cost effective manner and prevent most of the load transfer problems.

Faulting Measurements

The analysis of the faulting data revealed no meaningful correlation between faulting magnitude and dowel arrangement. Rather, the random nature of the results was unexpected. Figures C.9 through C.12 of Appendix C display seasonal faulting trends for the Urban location, and Figures C.13 through C.16 in Appendix C display such trends for the Rural location. Negative faulting was prevalent in nearly every case and exhibited a tendency to increase on the Rural project through the last two years of the study. Surprisingly, the full baskets did not always outperform the other dowel configurations; rather, the results were seemingly random and unstable. Simply, there is no discernable or significant pattern that can be drawn from the seasonal measurements. Such erratic results could be related to climatic effects on sub-base and drainage, but there is not detailed information enough to draw any further conclusions. Actual joint measurements are shown in Tables B.16 and B.17 of Appendix B.

Joint Opening Measurements

Figures C.17 through C.20 in Appendix C illustrate the seasonal movement, or opening and closing of joints for both the Urban and Rural projects. All joints exhibited free movement through the change of seasons, indicative of a properly operative joint. The change in joint opening generally correlated with changes in temperature between testing periods. An increase in temperature tended to produce a decrease in joint opening as the pavement slabs expanded, while a decrease in temperature resulted in the joint openings increasing due to contraction of the slabs. In general, as can be noted from the figures, joints with no bars exhibited the least amount of movement, while joints with full dowel baskets displayed significant levels of movement in both projects. The Rural project exhibited the greatest amount of movement; nearly 7 mm in one instance, while joints on the Urban project rarely exceeded 2 mm. Likely this variation is due to sub-base disparities. Actual joint measurements are shown in Tables B.16 and B.17 of Appendix B.

Visual Survey Results

Biannual visual surveys of this project revealed only minor corner cracking on the outside edges of the pavement within the first few years after construction. The Urban project exhibited very little corner cracking, with the majority of cracks noted in the longer Rural test section. Such cracks were few in number and minor in size, typically ranging from 2 inches to 6 inches in size; likely the result of tight blading to the edge of the pavement. One transverse crack was noted at a mid-slab of the Rural site. It is located at station 192+10, an intersection with a granular surfaced road, and mirrors the centerline joint of the approach slabs. The crack is likely a result of the construction methods at the intersection, which included slab tying and joint development across the intersection. A 4-inch by 2-inch spall was also located on the Rural site at station 179+60. There are no other visible signs of pavement distress that can be associated with joint reinforcement or typical highway loading over the five years of surveys. Notes from the biannual surveys and joint measurements are shown in Tables B.16 and B.17 of Appendix B.

Dowel Bar Arrangement Comparisons

The objective of this research was to evaluate the impact of dowel bars on transverse joint performance within low traffic volume portland cement concrete pavements. Stemming from this objective is a further goal of exploring the potential to reduce the number of dowel bars built into pavements that may not necessarily require the level of design laid forth in typical highway standards. Reduction in the number of dowel bars in a concrete pavement has a strong potential to significantly reduce the cost of road construction, particularly for low budget highway departments in rural areas. Table 4 demonstrates the extent to which savings are possible.

Table 4. Number of Dowels per Lane-Mile

Number of Dowels per Joint	Number of Dowels per Lane-Mile		
	15-ft Joint Spacing	20-ft Joint Spacing	25-ft Joint Spacing
12	4224	3168	2534
4	1408	1056	845
3	1056	792	634

Based on the results of this research over the five-year analysis period, there is a strong indication that the number of dowels installed in joints can be reduced while maintaining the integrity of a pavement.

The statistical analysis on the Urban project found that the arrangement of dowel bars had no significant effect on load transfer at the joints. Further inspection of the load transfer efficiency graphs in Appendix C reveals that under the certain conditions, four and even three dowel bars located in the outer wheel paths would provide load transfer comparable to that of a full width dowel basket. In addition, the section of roadway constructed without dowel bars proves to be performing nearly as well as the other test sections.

The Rural project did exhibit considerably different effects, likely due to the nature of the project's sub-base. In this case, a considerable advantage can be observed in the use of full dowel basket assemblies, particularly at the inside wheel paths, which seemed to be more susceptible to decreased load transfer. The outer wheel paths seemed to suffice with three or four dowels in the wheel path only, perhaps indicating that placing three or four dowels within the inside path would be ideal.

SUMMARY AND CONCLUSIONS

This research project involved the evaluation of alternative concrete pavement designs, specifically, altering the number and location of dowel bars across a transverse joint. Previous laboratory research suggested that pavement performance might not be affected by reducing the number of dowel bars across a transverse joint. Therefore, this research project evaluated four dowel arrangements: (1) zero dowels, (2) three dowels in the outside wheel paths only, (3) four dowels in the outside wheel paths only, and (4) full basket of 12 dowels across a joint. Two test sites were prepared each with the four dowel arrangements, one with a compacted soil sub-grade (Rural site) and the other with an asphalt concrete sub-grade (Urban site).

The research objective was to evaluate the impact of the number of dowel bars and dowel location on pavement and joint performance. To satisfy this objective, an evaluation of the test sections was performed biannually (early fall or late summer and early spring) over a five-year testing period. Testing in the spring allowed the evaluation of pavement with a typically wet, weak foundation; during the early fall testing, the sub-grade was likely to be more dry and solid. Biannual evaluation of both the Urban and Rural sites consisted of (1) deflection measurements, (2) joint faulting measurements, (3) joint opening measurements, and (4) visual distress surveys. The deflection measurements, as measured by the Iowa DOT's Road Rater, were used to calculate the load transfer efficiency of each joint. This measure of joint performance was analyzed with inferential statistics to determine whether dowel configuration has a significant impact on pavement performance.

The results of the statistical analysis found no significant difference between the various dowel arrangements in the Urban setting. From this, an inference may be drawn that low traffic volume pavements under similar conditions do not benefit greatly from the added reinforcement of steel dowel bars at the joint. The Rural location, however, exhibited a significant difference in joint performance based dowel bar configuration. Inner wheel paths without mechanical reinforcement showed a considerable decline in performance that was consistently lower with each testing period. Further, full dowel baskets were shown to outperform the three and four basket assemblies, with the absence of dowels showing the poorest performance.
An analysis of joint faulting measurements revealed no meaningful correlation between faulting magnitude and dowel arrangement. Rather, the results were seemingly random with no discernable pattern from which to draw useful conclusions. Likely, the greatest influence on joint faulting was climatic conditions through the seasons.

The biannual measurements of joint openings provided relatively normal results. All joints exhibited free movement through the change of seasons, indicative of a properly operative joint.

In general, joints with no bars exhibited the least amount of movement, while joints with full dowel baskets displayed significant levels of movement in both projects; however, this is merely an observation that is not likely to have a result on pavement performance. The Rural project exhibited the greatest amount of movement; again, any variation is likely due to sub-base disparities.

Biannual visual surveys of this project revealed only minor corner cracking on the outside edges of the pavement within the first few years after construction. For both pavements, the cracks were relatively few in number and minor in size with only one transverse crack being found at an intersection on the Rural grade. Ultimately, there are no visible signs of pavement distress that can be associated with joint reinforcement or typical highway loading over the five years of surveys.

In many cases, standards developed for today's highways simply do not reflect the simpler design needs of low traffic volume, rural roads. An opportunity to reduce the number of dowel bars placed within joints could mean significant savings for highway departments on a limited budget without sacrificing the effective load transfer of joints.

The results of this research indicate that the stiffness of a sub-grade strongly influences the extent to which dowel arrangements are effective in strengthening pavement performance. Therefore, for pavements with a weak sub-grade, it is recommended that full-width dowel baskets be used. For pavements with a stronger, more stable sub-grade, three or four dowels in the outside wheel path will suffice. The results of this research indicate further that there is little advantage to be gained from four dowels versus three in a wheel path. Additional investigation would be useful in determining ideal dowel bar arrangements for various conditions. It is possible that smaller dowel baskets will be useful for moderately weak to moderately strong sub-grades when placed in both wheel paths.

The following additional summaries and conclusions have been reached based on the results of this study:

- The extent to which mechanical load transfer devices have an effect on pavement performance is significantly dependent on the condition of the sub-base. This research indicated that dowel bars make up for weaknesses in a sub-grade as exhibited by the varying performance of the Rural and Urban projects.
- Outer wheel path dowel baskets are a very practical alternative in situations where the sub-base is well established and stable, and truck traffic is estimated to exceed 100 vehicles per day in the pavement design period.
- Roads built on weaker sub-bases similar to that of the rural project may perform quite well with smaller baskets (3 to 4 dowels) placed within *both* wheel paths.
- Though it is too early to settle on more definite conclusions, latter trends within the graphs of pavement performance seem to indicate a long-term benefit to full-width dowel reinforcement.

FUTURE RESEARCH NEEDS AND IMPLEMENTATION

In the best interests of the paving industry and researchers alike, it is recommended that the pavement evaluation for this research project continue to periodically monitor the performance of this pavement throughout its lifetime. This would enable more conclusions to be drawn from the evaluation of the long-term effect of alternative dowel arrangements on the performance of pavements with varying sub-base strength.

Similarly, it is of mutual benefit for researchers to note similar studies currently being conducted in the field of alternative joint reinforcement. Currently in the state of Iowa, several similar studies are being conducted to test the effectiveness of size, shape, material, spacing, and position of dowel bar reinforcement on pavement performance.

Research implemented in the new four-lane construction of Iowa Highway 330 has tested the effects of elliptical dowels of various sizes, spacing, and configurations, including positioning in wheel paths. Studies have also been made on the effectiveness of various dowel bar materials and coatings ranging from epoxy coatings to stainless steel and fiber-reinforced polymers (FRP) as part of the US 65 bypass near Carlisle, Iowa.

No specific future research in the field of alternative joint reinforcement amounts is recommended as a result of this work.

Appendix A

Typical Project Cross Section

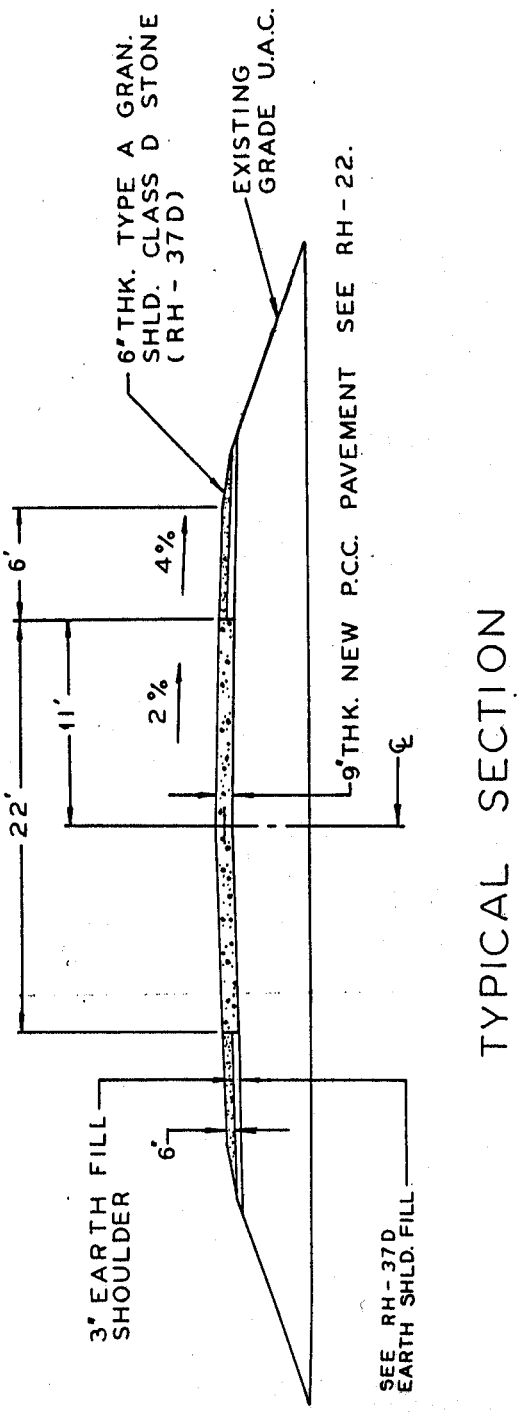

Figure A.1. Typical Project Cross Section

Appendix B

Data Tables

Table B.1. Average Monthly Minimum Temperature (ºF)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1998	-2	18	1	30	42	40	57	57	42	34	19	-12
1999	-21	11	15	29	37	46	57	53	37	22	20	-15
2000	1	9	18	22	41	46	54	58	36	23	5	-12
2001	-16	-12	14	26	43	44	60	55	42	22	26	7
2002	5	1	-2	19	39	52	59	53	38	25	10	8
2003	-12	-8	5	20	40	46	54	58	31	NA	NA	NA

Table B.2. Average Monthly Maximum Temperature (ºF)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1998	58	59	78	79	87	89	95	92	90	75	69	63
1999	50	68	70	75	81	90	100	90	91	86	80	55
2000	54	70	78	88	95	91	90	96	99	81	68	49
2001	40	44	56	86	89	95	97	96	96	84	77	69
2002	70	68	78	90	88	91	97	96	94	83	69	63
2003	65	54	80	87	88	90	97	104	89	NA	NA	NA

Table B.3. Average Monthly Precipitation (in.)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
1998	0.96	2.24	3.80	2.55	3.24	7.52	3.15	3.18	1.00	2.64	2.62	0.35	33.25
1999	0.71	1.52	0.95	6.30	5.30	3.01	1.72	4.57	4.20	0.24	1.45	0.48	30.45
2000	0.20	1.97	1.34	1.41	1.79	6.72	4.34	2.13	1.68	1.72	2.01	1.14	26.45
2001	2.10	2.58	1.34	2.48	8.42	5.31	2.81	0.84	4.98	0.94	0.82	0.55	33.17
2002	0.33	0.90	0.88	3.07	4.53	2.58	2.21	5.07	1.77	4.58	0.37	0.00	26.29
2003	0.18	1.07	0.90	3.29	4.68	NA	NA	NA	NA	NA	NA	NA	10.12

Table B.4. Yearly Last Days Below a Given Temperature

	Last Day Below 14 ºF	Last Day Below 20 ºF	Last Day Below 24 ºF	Last Day Below 28 ºF	Last Day Below 32 ºF
1998	14-Mar	15-Mar	15-Mar	16-Mar	17-Apr
1999	21-Feb	14-Mar	26-Mar	26-Mar	18-Apr
2000	20-Feb	17-Mar	8-Apr	8-Apr	12-Apr
2001	26-Mar	27-Mar	27-Mar	1-Apr	24-Apr
2002	22-Mar	4-Apr	4-Apr	6-Apr	6-Apr

Table B.5. Yearly Last Days Above a Given Temperature

	Last Day Above 14 ºF	Last Day Above 20 ºF	Last Day Above 24 ºF	Last Day Above 28 ºF	Last Day Above 32 ºF
1998	20-Dec	7-Nov	6-Nov	5-Nov	3-Nov
1999	16-Dec	20-Nov	24-Oct	24-Oct	4-Oct
2000	17-Nov	13-Nov	8-Oct	6-Oct	6-Oct
2001	24-Dec	23-Dec	27-Oct	27-Oct	17-Oct
2002	25-Nov	1-Nov	31-Oct	20-Oct	7-Oct

Table B.6. Traffic Data—Average Annual Daily Traffic (AADT)

Urban		
All Vehicles	Single Unit Trucks	Combination Trucks
2700	79	49

Rural		
All Vehicles	Single Unit Trucks	Combination Trucks
258	34	3

Table B.7. Road Rater Results—Load Transfer History

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	east	F1998	zero	0.76	0.68	89
urban	inside	east	F1998	zero	0.91	0.79	87
urban	inside	east	F1998	zero	0.85	0.76	89
urban	inside	east	F1998	zero	0.79	0.72	91
urban	inside	east	F1998	zero	0.85	0.78	92
urban	inside	east	F1998	zero	0.88	0.81	92
urban	inside	east	F1998	zero	0.85	0.76	89
urban	inside	east	F1998	zero	0.85	0.77	91
urban	inside	east	F1998	zero	0.78	0.71	91
urban	inside	east	F1998	zero	0.81	0.73	90
urban	inside	east	F1998	three	0.8	0.71	89
urban	inside	east	F1998	three	0.83	0.73	88
urban	inside	east	F1998	three	0.76	0.67	88
urban	inside	east	F1998	three	0.69	0.62	90
urban	inside	east	F1998	three	0.76	0.67	88
urban	inside	east	F1998	three	0.78	0.69	88
urban	inside	east	F1998	three	0.73	0.65	89
urban	inside	east	F1998	three	0.73	0.64	88
urban	inside	east	F1998	three	0.7	0.62	89
urban	inside	east	F1998	three	0.73	0.65	89
urban	inside	east	F1998	three	0.72	0.65	90
urban	inside	east	F1998	four	0.75	0.67	89
urban	inside	east	F1998	four	0.74	0.65	88
urban	inside	east	F1998	four	0.67	0.6	90
urban	inside	east	F1998	four	0.71	0.64	90
urban	inside	east	F1998	four	0.76	0.69	91
urban	inside	east	F1998	four	0.71	0.66	93
urban	inside	east	F1998	four	0.77	0.69	90
urban	inside	east	F1998	four	0.73	0.66	90
urban	inside	east	F1998	four	0.74	0.66	89
urban	inside	east	F1998	four	0.84	0.72	86
urban	inside	east	F1998	full	0.67	0.62	93
urban	inside	east	F1998	full	0.71	0.64	90
urban	inside	east	F1998	full	0.72	0.64	89
urban	inside	east	F1998	full	0.8	0.71	89
urban	inside	east	F1998	full	0.78	0.68	87
urban	inside	east	F1998	full	0.72	0.65	90
urban	inside	east	F1998	full	0.7	0.64	91
urban	inside	east	F1998	full	0.77	0.69	90
urban	inside	east	F1998	full	0.72	0.66	92
urban	inside	east	F1998	full	0.9	0.78	87
urban	inside	east	S1999	zero	0.85	0.74	87
urban	inside	east	S1999	zero	0.82	0.72	88
urban	inside	east	S1999	zero	0.84	0.74	88
urban	inside	east	S1999	zero	0.78	0.7	90
urban	inside	east	S1999	zero	0.88	0.78	89
urban	inside	east	S1999	zero	0.84	0.77	92
urban	inside	east	S1999	zero	0.84	0.75	89

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	east	S1999	zero	0.77	0.71	92
urban	inside	east	S1999	zero	0.8	0.72	90
urban	inside	east	S1999	zero	0.84	0.75	89
urban	inside	east	S1999	three	0.81	0.72	89
urban	inside	east	S1999	three	0.77	0.69	90
urban	inside	east	S1999	three	0.68	0.63	93
urban	inside	east	S1999	three	0.72	0.64	89
urban	inside	east	S1999	three	0.88	0.75	85
urban	inside	east	S1999	three	0.86	0.73	85
urban	inside	east	S1999	three	0.79	0.69	87
urban	inside	east	S1999	three	0.81	0.7	86
urban	inside	east	S1999	three	0.76	0.66	87
urban	inside	east	S1999	three	0.65	0.59	91
urban	inside	east	S1999	three	0.89	0.76	85
urban	inside	east	S1999	four	0.81	0.71	88
urban	inside	east	S1999	four	0.75	0.65	87
urban	inside	east	S1999	four	0.68	0.61	90
urban	inside	east	S1999	four	0.75	0.66	88
urban	inside	east	S1999	four	0.87	0.76	87
urban	inside	east	S1999	four	0.83	0.73	88
urban	inside	east	S1999	four	0.83	0.72	87
urban	inside	east	S1999	four	0.74	0.65	88
urban	inside	east	S1999	four	0.83	0.71	86
urban	inside	east	S1999	four	1.04	0.83	80
urban	inside	east	S1999	full	0.68	0.61	90
urban	inside	east	S1999	full	0.7	0.63	90
urban	inside	east	S1999	full	0.77	0.67	87
urban	inside	east	S1999	full	0.7	0.62	89
urban	inside	east	S1999	full	0.68	0.6	88
urban	inside	east	S1999	full	0.61	0.56	92
urban	inside	east	S1999	full	0.7	0.62	89
urban	inside	east	S1999	full	0.69	0.62	90
urban	inside	east	S1999	full	0.7	0.64	91
urban	inside	east	S1999	full	0.68	0.63	93
urban	inside	east	F1999	zero	0.76	0.68	89
urban	inside	east	F1999	zero	0.73	0.65	89
urban	inside	east	F1999	zero	0.75	0.67	89
urban	inside	east	F1999	zero	0.94	0.82	87
urban	inside	east	F1999	zero	0.92	0.82	89
urban	inside	east	F1999	zero	0.84	0.77	92
urban	inside	east	F1999	zero	0.75	0.69	92
urban	inside	east	F1999	zero	0.76	0.69	91
urban	inside	east	F1999	zero	0.83	0.75	90
urban	inside	east	F1999	zero	0.74	0.66	89
urban	inside	east	F1999	three	0.85	0.74	87
urban	inside	east	F1999	three	0.88	0.75	85
urban	inside	east	F1999	three	0.66	0.6	91
urban	inside	east	F1999	three	0.67	0.61	91
urban	inside	east	F1999	three	0.78	0.67	86
urban	inside	east	F1999	three	0.67	0.61	91
urban	inside	east	F1999	three	0.75	0.65	87
urban	inside	east	F1999	three	0.68	0.59	87
urban	inside	east	F1999	three	0.79	0.67	85
urban	inside	east	F1999	three	0.63	0.57	90
urban	inside	east	F1999	three	0.76	0.66	87
urban	inside	east	F1999	four	0.75	0.66	88
urban	inside	east	F1999	four	0.68	0.59	87
urban	inside	east	F1999	four	0.69	0.61	88
urban	inside	east	F1999	four	0.73	0.64	88
urban	inside	east	F1999	four	0.8	0.7	88
urban	inside	east	F1999	four	0.74	0.67	91
urban	inside	east	F1999	four	0.76	0.66	87

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	east	F1999	four	0.68	0.6	88
urban	inside	east	F1999	four	0.69	0.62	90
urban	inside	east	F1999	four	0.77	0.67	87
urban	inside	east	F1999	full	0.72	0.63	88
urban	inside	east	F1999	full	0.7	0.63	90
urban	inside	east	F1999	full	0.78	0.68	87
urban	inside	east	F1999	full	0.76	0.67	88
urban	inside	east	F1999	full	0.75	0.66	88
urban	inside	east	F1999	full	0.63	0.56	89
urban	inside	east	F1999	full	0.66	0.6	91
urban	inside	east	F1999	full	0.72	0.64	89
urban	inside	east	F1999	full	0.73	0.66	90
urban	inside	east	F1999	full	0.82	0.72	88
urban	inside	east	S2000	zero	0.84	0.79	94
urban	inside	east	S2000	zero	1.14	0.88	77
urban	inside	east	S2000	zero	1.00	0.90	90
urban	inside	east	S2000	zero	1.17	0.96	82
urban	inside	east	S2000	zero	1.17	1.06	91
urban	inside	east	S2000	zero	1.12	0.97	87
urban	inside	east	S2000	zero	1.10	1.00	91
urban	inside	east	S2000	zero	1.08	1.04	96
urban	inside	east	S2000	zero	1.12	0.96	86
urban	inside	east	S2000	zero	1.04	0.94	90
urban	inside	east	S2000	three	1.16	0.84	72
urban	inside	east	S2000	three	1.02	0.91	89
urban	inside	east	S2000	three	1.00	0.82	82
urban	inside	east	S2000	three	1.08	0.80	74
urban	inside	east	S2000	three	1.10	0.86	78
urban	inside	east	S2000	three	1.10	0.86	78
urban	inside	east	S2000	three	1.01	0.82	81
urban	inside	east	S2000	three	1.09	0.70	64
urban	inside	east	S2000	three	1.10	0.80	73
urban	inside	east	S2000	three	1.01	0.86	85
urban	inside	east	S2000	three	1.24	0.79	64
urban	inside	east	S2000	four	1.27	0.80	63
urban	inside	east	S2000	four	1.09	0.76	70
urban	inside	east	S2000	four	0.89	0.81	91
urban	inside	east	S2000	four	1.12	0.84	75
urban	inside	east	S2000	four	1.25	0.89	71
urban	inside	east	S2000	four	1.28	0.86	67
urban	inside	east	S2000	four	1.14	0.85	75
urban	inside	east	S2000	four	1.11	0.85	77
urban	inside	east	S2000	four	1.10	0.83	75
urban	inside	east	S2000	four	1.11	0.89	80
urban	inside	east	S2000	full	0.93	0.83	89
urban	inside	east	S2000	full	1.00	0.81	81
urban	inside	east	S2000	full	0.99	0.85	86
urban	inside	east	S2000	full	1.03	0.85	83
urban	inside	east	S2000	full	0.98	0.78	80
urban	inside	east	S2000	full	0.87	0.78	90
urban	inside	east	S2000	full	0.87	0.85	98
urban	inside	east	S2000	full	0.98	0.86	88
urban	inside	east	S2000	full	1.03	0.90	87
urban	inside	east	S2000	full	1.09	0.91	83
urban	inside	east	F2000	zero	0.92	0.75	82
urban	inside	east	F2000	zero	0.97	0.81	84
urban	inside	east	F2000	zero	0.97	0.80	82
urban	inside	east	F2000	zero	0.99	0.90	91
urban	inside	east	F2000	zero	1.10	0.92	84
urban	inside	east	F2000	zero	1.07	0.88	82
urban	inside	east	F2000	zero	1.09	0.87	80
urban	inside	east	F2000	zero	1.14	0.92	81

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	east	F2000	zero	1.05	0.91	87
urban	inside	east	F2000	zero	1.02	0.84	82
urban	inside	east	F2000	three	1.21	0.76	63
urban	inside	east	F2000	three	1.39	0.67	48
urban	inside	east	F2000	three	1.17	0.60	51
urban	inside	east	F2000	three	1.31	0.60	46
urban	inside	east	F2000	three	1.24	0.70	56
urban	inside	east	F2000	three	1.15	0.62	54
urban	inside	east	F2000	three	1.00	0.61	61
urban	inside	east	F2000	three	1.01	0.62	61
urban	inside	east	F2000	three	1.06	0.62	58
urban	inside	east	F2000	three	1.07	0.65	61
urban	inside	east	F2000	three	1.30	0.70	54
urban	inside	east	F2000	four	1.08	0.69	64
urban	inside	east	F2000	four	1.09	0.61	56
urban	inside	east	F2000	four	1.08	0.65	60
urban	inside	east	F2000	four	1.07	0.64	60
urban	inside	east	F2000	four	1.21	0.75	62
urban	inside	east	F2000	four	1.14	0.74	65
urban	inside	east	F2000	four	1.04	0.69	66
urban	inside	east	F2000	four	1.13	0.71	63
urban	inside	east	F2000	four	1.07	0.71	66
urban	inside	east	F2000	four	1.04	0.67	64
urban	inside	east	F2000	full	0.82	0.70	85
urban	inside	east	F2000	full	0.94	0.68	72
urban	inside	east	F2000	full	0.96	0.75	78
urban	inside	east	F2000	full	0.94	0.74	79
urban	inside	east	F2000	full	0.96	0.75	78
urban	inside	east	F2000	full	0.84	0.69	82
urban	inside	east	F2000	full	0.89	0.72	81
urban	inside	east	F2000	full	0.97	0.76	78
urban	inside	east	F2000	full	1.11	0.77	69
urban	inside	east	F2000	full	1.14	0.81	71
urban	inside	east	S2001	zero	0.93	0.81	87
urban	inside	east	S2001	zero	1.04	0.83	80
urban	inside	east	S2001	zero	1.04	0.90	87
urban	inside	east	S2001	zero	1.06	0.89	84
urban	inside	east	S2001	zero	1.19	0.97	82
urban	inside	east	S2001	zero	1.12	0.93	83
urban	inside	east	S2001	zero	1.12	0.94	84
urban	inside	east	S2001	zero	1.19	0.98	82
urban	inside	east	S2001	zero	1.13	0.97	86
urban	inside	east	S2001	zero	1.15	0.93	81
urban	inside	east	S2001	three	1.17	0.86	74
urban	inside	east	S2001	three	1.11	0.85	77
urban	inside	east	S2001	three	1.11	0.79	71
urban	inside	east	S2001	three	1.04	0.80	77
urban	inside	east	S2001	three	1.04	0.79	76
urban	inside	east	S2001	three	1.09	0.77	71
urban	inside	east	S2001	three	1.13	0.74	65
urban	inside	east	S2001	three	0.97	0.76	78
urban	inside	east	S2001	three	1.02	0.77	75
urban	inside	east	S2001	three	1.03	0.86	83
urban	inside	east	S2001	three	1.21	0.83	69
urban	inside	east	S2001	four	1.09	0.79	72
urban	inside	east	S2001	four	1.08	0.75	69
urban	inside	east	S2001	four	1.05	0.74	70
urban	inside	east	S2001	four	1.17	0.75	64
urban	inside	east	S2001	four	1.09	0.81	74
urban	inside	east	S2001	four	1.17	0.83	71
urban	inside	east	S2001	four	1.03	0.86	83
urban	inside	east	S2001	four	1.10	0.77	70

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	east	S2001	four	0.96	0.83	86
urban	inside	east	S2001	four	1.10	0.76	69
urban	inside	east	S2001	full	0.93	0.81	87
urban	inside	east	S2001	full	1.01	0.79	78
urban	inside	east	S2001	full	0.95	0.83	87
urban	inside	east	S2001	full	0.99	0.79	80
urban	inside	east	S2001	full	0.96	0.77	80
urban	inside	east	S2001	full	0.91	0.75	82
urban	inside	east	S2001	full	1.03	0.84	82
urban	inside	east	S2001	full	1.06	0.87	82
urban	inside	east	S2001	full	1.06	0.89	84
urban	inside	east	S2001	full	1.14	0.88	77
urban	inside	east	F2001	zero	0.93	0.80	86
urban	inside	east	F2001	zero	1.02	0.86	84
urban	inside	east	F2001	zero	0.91	0.82	90
urban	inside	east	F2001	zero	1.02	0.92	90
urban	inside	east	F2001	zero	1.09	0.98	90
urban	inside	east	F2001	zero	0.97	0.89	92
urban	inside	east	F2001	zero	1.02	0.93	91
urban	inside	east	F2001	zero	1.22	0.96	79
urban	inside	east	F2001	zero	1.14	1.00	88
urban	inside	east	F2001	zero	0.99	0.87	88
urban	inside	east	F2001	three	1.04	0.89	86
urban	inside	east	F2001	three	1.08	0.86	80
urban	inside	east	F2001	three	0.93	0.73	78
urban	inside	east	F2001	three	0.92	0.79	86
urban	inside	east	F2001	three	1.01	0.81	80
urban	inside	east	F2001	three	0.90	0.79	88
urban	inside	east	F2001	three	1.19	0.75	63
urban	inside	east	F2001	three	1.07	0.71	66
urban	inside	east	F2001	three	1.02	0.77	75
urban	inside	east	F2001	three	1.13	0.81	72
urban	inside	east	F2001	three	1.05	0.89	85
urban	inside	east	F2001	four	1.08	0.92	85
urban	inside	east	F2001	four	1.09	0.89	82
urban	inside	east	F2001	four	1.12	0.82	73
urban	inside	east	F2001	four	1.12	0.82	73
urban	inside	east	F2001	four	1.06	0.94	89
urban	inside	east	F2001	four	1.01	0.90	89
urban	inside	east	F2001	four	1.03	0.91	88
urban	inside	east	F2001	four	1.05	0.85	81
urban	inside	east	F2001	four	0.94	0.85	90
urban	inside	east	F2001	four	1.12	0.82	73
urban	inside	east	F2001	full	0.96	0.82	85
urban	inside	east	F2001	full	0.99	0.83	84
urban	inside	east	F2001	full	0.89	0.80	90
urban	inside	east	F2001	full	0.97	0.85	88
urban	inside	east	F2001	full	0.83	0.72	87
urban	inside	east	F2001	full	0.83	0.73	88
urban	inside	east	F2001	full	0.97	0.85	88
urban	inside	east	F2001	full	0.98	0.82	84
urban	inside	east	F2001	full	0.94	0.81	86
urban	inside	east	F2001	full	1.00	0.91	91
urban	inside	east	S2002	zero	0.84	0.74	88
urban	inside	east	S2002	zero	0.80	0.71	89
urban	inside	east	S2002	zero	0.89	0.76	85
urban	inside	east	S2002	zero	0.98	0.84	86
urban	inside	east	S2002	zero	0.99	0.90	91
urban	inside	east	S2002	zero	0.90	0.84	93
urban	inside	east	S2002	zero	0.97	0.82	85
urban	inside	east	S2002	zero	1.01	0.86	85
urban	inside	east	S2002	zero	1.03	0.87	84

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	east	S2002	zero	0.85	0.73	86
urban	inside	east	S2002	three	1.04	0.73	70
urban	inside	east	S2002	three	0.96	0.73	76
urban	inside	east	S2002	three	0.93	0.70	75
urban	inside	east	S2002	three	0.91	0.68	75
urban	inside	east	S2002	three	1.01	0.70	69
urban	inside	east	S2002	three	1.04	0.73	70
urban	inside	east	S2002	three	0.96	69.00	7188
urban	inside	east	S2002	three	0.90	0.74	82
urban	inside	east	S2002	three	1.03	0.70	68
urban	inside	east	S2002	three	0.96	0.80	83
urban	inside	east	S2002	three	1.14	0.76	67
urban	inside	east	S2002	four	1.08	0.86	80
urban	inside	east	S2002	four	0.93	0.80	86
urban	inside	east	S2002	four	0.91	0.78	86
urban	inside	east	S2002	four	1.06	0.78	74
urban	inside	east	S2002	four	1.12	0.87	78
urban	inside	east	S2002	four	1.00	0.85	85
urban	inside	east	S2002	four	0.99	0.79	80
urban	inside	east	S2002	four	0.89	0.77	87
urban	inside	east	S2002	four	0.89	0.80	90
urban	inside	east	S2002	four	1.14	0.72	63
urban	inside	east	S2002	full	0.86	0.78	91
urban	inside	east	S2002	full	0.92	0.74	80
urban	inside	east	S2002	full	0.88	0.75	85
urban	inside	east	S2002	full	1.04	0.77	74
urban	inside	east	S2002	full	0.90	0.70	78
urban	inside	east	S2002	full	0.86	0.74	86
urban	inside	east	S2002	full	0.96	0.77	80
urban	inside	east	S2002	full	0.99	0.79	80
urban	inside	east	S2002	full	1.06	0.82	77
urban	inside	east	S2002	full	1.09	0.85	78
urban	inside	east	F2002	zero	0.94	0.79	84
urban	inside	east	F2002	zero	0.98	0.86	88
urban	inside	east	F2002	zero	0.90	0.85	94
urban	inside	east	F2002	zero	1.11	0.93	84
urban	inside	east	F2002	zero	1.20	0.90	75
urban	inside	east	F2002	zero	1.23	0.91	74
urban	inside	east	F2002	zero	1.19	0.96	81
urban	inside	east	F2002	zero	1.18	1.01	86
urban	inside	east	F2002	zero	0.97	0.87	90
urban	inside	east	F2002	zero	1.17	0.87	74
urban	inside	east	F2002	three	1.19	0.98	82
urban	inside	east	F2002	three	1.17	0.75	64
urban	inside	east	F2002	three	1.05	0.69	66
urban	inside	east	F2002	three	0.97	0.84	87
urban	inside	east	F2002	three	1.16	0.72	62
urban	inside	east	F2002	three	1.09	0.76	70
urban	inside	east	F2002	three	0.94	0.80	85
urban	inside	east	F2002	three	1.11	0.66	59
urban	inside	east	F2002	three	1.20	0.70	58
urban	inside	east	F2002	three	1.18	0.71	60
urban	inside	east	F2002	three	1.29	1.03	80
urban	inside	east	F2002	four	1.13	0.70	62
urban	inside	east	F2002	four	1.28	0.67	52
urban	inside	east	F2002	four	1.10	0.66	60
urban	inside	east	F2002	four	1.25	0.70	56
urban	inside	east	F2002	four	1.06	0.98	92
urban	inside	east	F2002	four	1.01	0.87	86
urban	inside	east	F2002	four	1.12	0.75	67
urban	inside	east	F2002	four	0.98	0.81	83
urban	inside	east	F2002	four	0.94	0.70	74

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	east	F2002	four	1.23	0.74	60
urban	inside	east	F2002	full	0.90	0.78	87
urban	inside	east	F2002	full	1.02	0.76	75
urban	inside	east	F2002	full	0.96	0.88	92
urban	inside	east	F2002	full	1.09	0.80	73
urban	inside	east	F2002	full	1.00	0.76	76
urban	inside	east	F2002	full	0.93	0.79	85
urban	inside	east	F2002	full	0.92	0.79	86
urban	inside	east	F2002	full	1.07	0.86	80
urban	inside	east	F2002	full	1.14	0.91	80
urban	inside	east	F2002	full	1.03	0.94	91
urban	inside	east	S2003	zero	0.86	0.72	84
urban	inside	east	S2003	zero	0.86	0.73	85
urban	inside	east	S2003	zero	0.95	0.80	84
urban	inside	east	S2003	zero	1.01	0.80	79
urban	inside	east	S2003	zero	1.00	0.89	89
urban	inside	east	S2003	zero	0.91	0.81	89
urban	inside	east	S2003	zero	0.99	0.84	85
urban	inside	east	S2003	zero	1.18	0.92	78
urban	inside	east	S2003	zero	1.05	0.81	77
urban	inside	east	S2003	zero	0.95	0.75	79
urban	inside	east	S2003	three	0.96	0.79	82
urban	inside	east	S2003	three	1.05	0.69	66
urban	inside	east	S2003	three	0.92	0.64	70
urban	inside	east	S2003	three	0.92	0.64	70
urban	inside	east	S2003	three	0.97	0.72	74
urban	inside	east	S2003	three	0.85	0.76	89
urban	inside	east	S2003	three	0.90	0.69	77
urban	inside	east	S2003	three	0.91	0.72	79
urban	inside	east	S2003	three	0.91	0.69	76
urban	inside	east	S2003	three	0.96	0.73	76
urban	inside	east	S2003	three	1.01	0.79	78
urban	inside	east	S2003	four	0.93	0.83	89
urban	inside	east	S2003	four	0.89	0.78	88
urban	inside	east	S2003	four	1.04	0.65	63
urban	inside	east	S2003	four	0.94	0.76	81
urban	inside	east	S2003	four	1.15	0.76	66
urban	inside	east	S2003	four	0.99	0.84	85
urban	inside	east	S2003	four	0.94	0.79	84
urban	inside	east	S2003	four	0.98	0.75	77
urban	inside	east	S2003	four	1.02	0.76	75
urban	inside	east	S2003	four	1.12	0.70	63
urban	inside	east	S2003	full	0.89	0.77	87
urban	inside	east	S2003	full	0.89	0.72	81
urban	inside	east	S2003	full	0.88	0.76	86
urban	inside	east	S2003	full	0.86	0.73	85
urban	inside	east	S2003	full	0.77	0.68	88
urban	inside	east	S2003	full	0.89	0.76	85
urban	inside	east	S2003	full	0.89	0.71	80
urban	inside	east	S2003	full	0.94	0.73	78
urban	inside	east	S2003	full	0.92	0.79	86
urban	inside	east	S2003	full	1.03	0.77	75
urban	inside	west	F1998	zero	0.90	0.77	86
urban	inside	west	F1998	zero	0.81	0.72	89
urban	inside	west	F1998	zero	0.91	0.76	84
urban	inside	west	F1998	zero	0.79	0.69	87
urban	inside	west	F1998	zero	0.91	0.79	87
urban	inside	west	F1998	zero	0.94	0.81	86
urban	inside	west	F1998	zero	0.89	0.79	89
urban	inside	west	F1998	zero	0.89	0.78	88
urban	inside	west	F1998	zero	0.87	0.77	89
urban	inside	west	F1998	zero	0.88	0.77	88

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	west	F1998	three	0.93	0.80	86
urban	inside	west	F1998	three	0.96	0.82	85
urban	inside	west	F1998	three	0.84	0.74	88
urban	inside	west	F1998	three	0.77	0.69	90
urban	inside	west	F1998	three	0.87	0.74	85
urban	inside	west	F1998	three	0.88	0.75	85
urban	inside	west	F1998	three	0.77	0.68	88
urban	inside	west	F1998	three	0.70	0.62	89
urban	inside	west	F1998	three	0.75	0.65	87
urban	inside	west	F1998	three	0.68	0.61	90
urban	inside	west	F1998	three	0.73	0.63	86
urban	inside	west	F1998	four	0.78	0.67	86
urban	inside	west	F1998	four	0.77	0.67	87
urban	inside	west	F1998	four	0.67	0.59	88
urban	inside	west	F1998	four	0.62	0.56	90
urban	inside	west	F1998	four	0.78	0.69	88
urban	inside	west	F1998	four	0.80	0.70	88
urban	inside	west	F1998	four	0.82	0.72	88
urban	inside	west	F1998	four	0.90	0.75	83
urban	inside	west	F1998	four	0.78	0.69	88
urban	inside	west	F1998	four	0.83	0.72	87
urban	inside	west	F1998	full	0.70	0.64	91
urban	inside	west	F1998	full	0.75	0.67	89
urban	inside	west	F1998	full	0.74	0.66	89
urban	inside	west	F1998	full	0.70	0.64	91
urban	inside	west	F1998	full	0.65	0.58	89
urban	inside	west	F1998	full	0.62	0.56	90
urban	inside	west	F1998	full	0.66	0.60	91
urban	inside	west	F1998	full	0.72	0.66	92
urban	inside	west	F1998	full	0.74	0.67	91
urban	inside	west	F1998	full	0.85	0.73	86
urban	inside	west	S1999	zero	1.05	0.86	82
urban	inside	west	S1999	zero	1.18	0.93	79
urban	inside	west	S1999	zero	1.01	0.82	81
urban	inside	west	S1999	zero	1.01	0.86	85
urban	inside	west	S1999	zero	0.87	0.77	89
urban	inside	west	S1999	zero	1.05	0.88	84
urban	inside	west	S1999	zero	0.94	0.81	86
urban	inside	west	S1999	zero	0.70	0.66	94
urban	inside	west	S1999	zero	0.86	0.75	87
urban	inside	west	S1999	zero	0.81	0.72	89
urban	inside	west	S1999	three	0.85	0.74	87
urban	inside	west	S1999	three	1.04	0.86	83
urban	inside	west	S1999	three	0.81	0.71	88
urban	inside	west	S1999	three	0.79	0.68	86
urban	inside	west	S1999	three	1.01	0.83	82
urban	inside	west	S1999	three	0.87	0.73	84
urban	inside	west	S1999	three	0.78	0.68	87
urban	inside	west	S1999	three	0.88	0.72	82
urban	inside	west	S1999	three	0.83	0.69	83
urban	inside	west	S1999	three	0.95	0.76	80
urban	inside	west	S1999	three	0.80	0.68	85
urban	inside	west	S1999	four	0.74	0.64	86
urban	inside	west	S1999	four	0.78	0.68	87
urban	inside	west	S1999	four	0.81	0.69	85
urban	inside	west	S1999	four	0.95	0.78	82
urban	inside	west	S1999	four	0.75	0.67	89
urban	inside	west	S1999	four	0.76	0.66	87
urban	inside	west	S1999	four	0.92	0.77	84
urban	inside	west	S1999	four	0.96	0.78	81
urban	inside	west	S1999	four	0.87	0.74	85
urban	inside	west	S1999	four	0.86	0.73	85

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	west	S1999	full	0.80	0.69	86
urban	inside	west	S1999	full	0.74	0.65	88
urban	inside	west	S1999	full	0.79	0.69	87
urban	inside	west	S1999	full	0.84	0.70	83
urban	inside	west	S1999	full	0.65	0.57	88
urban	inside	west	S1999	full	0.64	0.56	88
urban	inside	west	S1999	full	0.75	0.64	85
urban	inside	west	S1999	full	0.79	0.69	87
urban	inside	west	S1999	full	0.77	0.69	90
urban	inside	west	S1999	full	0.84	0.73	87
urban	inside	west	F1999	zero	1.08	0.85	79
urban	inside	west	F1999	zero	1.09	0.86	79
urban	inside	west	F1999	zero	0.97	0.80	82
urban	inside	west	F1999	zero	1.01	0.82	81
urban	inside	west	F1999	zero	0.94	0.79	84
urban	inside	west	F1999	zero	1.11	0.91	82
urban	inside	west	F1999	zero	1.01	0.85	84
urban	inside	west	F1999	zero	0.96	0.80	83
urban	inside	west	F1999	zero	1.12	0.90	80
urban	inside	west	F1999	zero	1.01	0.84	83
urban	inside	west	F1999	three	1.17	0.93	79
urban	inside	west	F1999	three	1.04	0.86	83
urban	inside	west	F1999	three	0.96	0.80	83
urban	inside	west	F1999	three	1.00	0.80	80
urban	inside	west	F1999	three	0.98	0.79	81
urban	inside	west	F1999	three	0.97	0.79	81
urban	inside	west	F1999	three	1.03	0.81	79
urban	inside	west	F1999	three	0.88	0.71	81
urban	inside	west	F1999	three	0.84	0.74	88
urban	inside	west	F1999	three	1.01	0.79	78
urban	inside	west	F1999	three	0.90	0.73	81
urban	inside	west	F1999	four	0.91	0.74	81
urban	inside	west	F1999	four	0.94	0.77	82
urban	inside	west	F1999	four	1.05	0.82	78
urban	inside	west	F1999	four	0.87	0.71	82
urban	inside	west	F1999	four	0.85	0.73	86
urban	inside	west	F1999	four	0.99	0.79	80
urban	inside	west	F1999	four	0.81	0.73	90
urban	inside	west	F1999	four	0.96	0.77	80
urban	inside	west	F1999	four	0.90	0.75	83
urban	inside	west	F1999	four	0.98	0.79	81
urban	inside	west	F1999	full	0.84	0.69	82
urban	inside	west	F1999	full	0.89	0.72	81
urban	inside	west	F1999	full	0.89	0.72	81
urban	inside	west	F1999	full	0.83	0.69	83
urban	inside	west	F1999	full	0.72	0.61	85
urban	inside	west	F1999	full	0.77	0.64	83
urban	inside	west	F1999	full	0.83	0.67	81
urban	inside	west	F1999	full	0.89	0.72	81
urban	inside	west	F1999	full	0.80	0.70	88
urban	inside	west	F1999	full	1.03	0.81	79
urban	inside	west	S2000	zero	1.06	0.91	86
urban	inside	west	S2000	zero	1.45	0.76	52
urban	inside	west	S2000	zero	1.23	0.83	67
urban	inside	west	S2000	zero	1.16	0.73	63
urban	inside	west	S2000	zero	1.30	0.84	65
urban	inside	west	S2000	zero	1.25	0.75	60
urban	inside	west	S2000	zero	1.23	0.90	73
urban	inside	west	S2000	zero	1.23	0.78	63
urban	inside	west	S2000	zero	1.21	0.85	70
urban	inside	west	S2000	zero	1.20	0.91	76
urban	inside	west	S2000	three	1.36	0.82	60

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	west	S2000	three	1.16	0.89	77
urban	inside	west	S2000	three	1.21	0.84	69
urban	inside	west	S2000	three	1.20	0.83	69
urban	inside	west	S2000	three	0.92	0.86	93
urban	inside	west	S2000	three	1.09	0.79	72
urban	inside	west	S2000	three	0.99	0.83	84
urban	inside	west	S2000	three	1.04	0.73	70
urban	inside	west	S2000	three	0.92	0.79	86
urban	inside	west	S2000	three	1.05	0.83	79
urban	inside	west	S2000	three	0.89	0.80	90
urban	inside	west	S2000	four	0.82	0.81	99
urban	inside	west	S2000	four	1.00	0.78	78
urban	inside	west	S2000	four	0.91	0.75	82
urban	inside	west	S2000	four	0.81	0.76	94
urban	inside	west	S2000	four	0.97	0.77	79
urban	inside	west	S2000	four	1.00	0.79	79
urban	inside	west	S2000	four	0.94	0.80	85
urban	inside	west	S2000	four	0.95	0.78	82
urban	inside	west	S2000	four	1.05	0.81	77
urban	inside	west	S2000	four	1.00	0.86	86
urban	inside	west	S2000	full	0.94	0.80	85
urban	inside	west	S2000	full	0.96	0.80	83
urban	inside	west	S2000	full	0.99	0.80	81
urban	inside	west	S2000	full	0.94	0.80	85
urban	inside	west	S2000	full			
urban	inside	west	S2000	full			
urban	inside	west	S2000	full			
urban	inside	west	S2000	full			
urban	inside	west	S2000	full			
urban	inside	west	S2000	full			
urban	inside	west	F2000	zero	1.08	0.68	63
urban	inside	west	F2000	zero	1.14	0.69	61
urban	inside	west	F2000	zero	1.10	0.69	63
urban	inside	west	F2000	zero	0.91	0.69	76
urban	inside	west	F2000	zero	1.24	0.73	59
urban	inside	west	F2000	zero	1.25	0.69	55
urban	inside	west	F2000	zero	1.26	0.77	61
urban	inside	west	F2000	zero	1.06	0.79	75
urban	inside	west	F2000	zero	1.12	0.73	65
urban	inside	west	F2000	zero	1.13	0.68	60
urban	inside	west	F2000	three	1.20	0.74	62
urban	inside	west	F2000	three	1.17	0.71	61
urban	inside	west	F2000	three	1.28	0.64	50
urban	inside	west	F2000	three	1.17	0.66	56
urban	inside	west	F2000	three	1.07	0.61	57
urban	inside	west	F2000	three	1.04	0.66	63
urban	inside	west	F2000	three	0.97	0.65	67
urban	inside	west	F2000	three	1.00	0.62	62
urban	inside	west	F2000	three	0.84	0.62	74
urban	inside	west	F2000	three	1.00	0.63	63
urban	inside	west	F2000	three	0.99	0.60	61
urban	inside	west	F2000	four	0.91	0.61	67
urban	inside	west	F2000	four	1.16	0.66	57
urban	inside	west	F2000	four	1.08	0.57	53
urban	inside	west	F2000	four	0.98	0.62	63
urban	inside	west	F2000	four	0.94	0.67	71
urban	inside	west	F2000	four	0.96	0.66	69
urban	inside	west	F2000	four	1.00	0.66	66
urban	inside	west	F2000	four	0.97	0.69	71
urban	inside	west	F2000	four	1.15	0.69	60
urban	inside	west	F2000	four	1.10	0.64	58
urban	inside	west	F2000	full	0.80	0.69	86

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	west	F2000	full	0.91	0.74	81
urban	inside	west	F2000	full	0.87	0.72	83
urban	inside	west	F2000	full	0.88	0.72	82
urban	inside	west	F2000	full	0.83	0.67	81
urban	inside	west	F2000	full	0.84	0.65	77
urban	inside	west	F2000	full	0.80	0.67	84
urban	inside	west	F2000	full	0.88	0.73	83
urban	inside	west	F2000	full	0.98	0.78	80
urban	inside	west	F2000	full	1.01	0.98	97
urban	inside	west	S2001	full	1.16	0.83	72
urban	inside	west	S2001	full	1.00	0.80	80
urban	inside	west	S2001	full	0.95	0.76	80
urban	inside	west	S2001	full	1.05	0.76	72
urban	inside	west	S2001	full	1.02	0.80	78
urban	inside	west	S2001	full	1.07	0.81	76
urban	inside	west	S2001	full	1.16	0.85	73
urban	inside	west	S2001	full	1.06	0.85	80
urban	inside	west	S2001	full	1.25	0.88	70
urban	inside	west	S2001	full	1.08	0.80	74
urban	inside	west	S2001	three	1.13	0.79	70
urban	inside	west	S2001	three	1.10	0.83	75
urban	inside	west	S2001	three	1.06	0.76	72
urban	inside	west	S2001	three	0.94	0.78	83
urban	inside	west	S2001	three	1.09	0.76	70
urban	inside	west	S2001	three	0.99	0.83	84
urban	inside	west	S2001	three	1.07	0.76	71
urban	inside	west	S2001	three	1.07	0.73	68
urban	inside	west	S2001	three	0.99	0.77	78
urban	inside	west	S2001	three	1.07	0.75	70
urban	inside	west	S2001	three	1.09	0.74	68
urban	inside	west	S2001	four	1.11	0.74	67
urban	inside	west	S2001	four			
urban	inside	west	S2001	four	1.03	0.68	66
urban	inside	west	S2001	four	0.93	0.78	84
urban	inside	west	S2001	four	1.06	0.76	72
urban	inside	west	S2001	four	1.04	0.78	75
urban	inside	west	S2001	four	1.08	0.77	71
urban	inside	west	S2001	four	1.03	0.72	70
urban	inside	west	S2001	four	1.09	0.77	71
urban	inside	west	S2001	four	1.04	0.75	72
urban	inside	west	S2001	full	0.79	0.78	99
urban	inside	west	S2001	full	1.04	0.79	76
urban	inside	west	S2001	full	1.04	0.82	79
urban	inside	west	S2001	full	1.00	0.80	80
urban	inside	west	S2001	full	0.92	0.74	80
urban	inside	west	S2001	full	0.88	0.73	83
urban	inside	west	S2001	full	0.89	0.74	83
urban	inside	west	S2001	full	0.94	0.81	86
urban	inside	west	S2001	full	1.06	0.85	80
urban	inside	west	S2001	full	1.12	0.87	78
urban	inside	west	F2001	full	1.01	0.87	86
urban	inside	west	F2001	full	1.17	0.91	78
urban	inside	west	F2001	full	0.96	0.79	82
urban	inside	west	F2001	full	0.92	0.79	86
urban	inside	west	F2001	full	0.92	0.83	90
urban	inside	west	F2001	full	0.99	0.84	85
urban	inside	west	F2001	full	1.06	0.91	86
urban	inside	west	F2001	full	0.95	0.84	88
urban	inside	west	F2001	full	1.04	0.88	85
urban	inside	west	F2001	full	0.91	0.81	89
urban	inside	west	F2001	three	1.02	0.88	86
urban	inside	west	F2001	three	0.99	0.89	90

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	west	F2001	three	0.97	0.83	86
urban	inside	west	F2001	three	1.02	0.85	83
urban	inside	west	F2001	three	0.96	0.83	86
urban	inside	west	F2001	three	0.95	0.82	86
urban	inside	west	F2001	three	0.95	0.79	83
urban	inside	west	F2001	three	0.98	0.78	80
urban	inside	west	F2001	three	0.85	0.75	88
urban	inside	west	F2001	three	0.91	0.82	90
urban	inside	west	F2001	three	0.98	0.82	84
urban	inside	west	F2001	four	0.93	0.83	89
urban	inside	west	F2001	four	0.94	0.79	84
urban	inside	west	F2001	four	0.80	0.71	89
urban	inside	west	F2001	four	0.87	0.78	90
urban	inside	west	F2001	four	0.93	0.81	87
urban	inside	west	F2001	four	0.92	0.79	86
urban	inside	west	F2001	four	0.92	0.79	86
urban	inside	west	F2001	four	0.80	0.72	90
urban	inside	west	F2001	four	1.00	0.85	85
urban	inside	west	F2001	four	0.96	0.80	83
urban	inside	west	F2001	full	0.91	0.82	90
urban	inside	west	F2001	full	1.05	0.82	78
urban	inside	west	F2001	full	1.01	84.00	8317
urban	inside	west	F2001	full	0.92	0.80	87
urban	inside	west	F2001	full	0.82	0.71	87
urban	inside	west	F2001	full	0.81	0.72	89
urban	inside	west	F2001	full	0.90	0.79	88
urban	inside	west	F2001	full	0.87	0.78	90
urban	inside	west	F2001	full	0.94	0.83	88
urban	inside	west	F2001	full	1.02	0.92	90
urban	inside	west	S2002	full	0.99	0.84	85
urban	inside	west	S2002	full	0.88	0.76	86
urban	inside	west	S2002	full	0.89	0.72	81
urban	inside	west	S2002	full	0.89	0.71	80
urban	inside	west	S2002	full	0.94	0.74	79
urban	inside	west	S2002	full	0.98	0.77	79
urban	inside	west	S2002	full	1.01	0.78	77
urban	inside	west	S2002	full	0.96	0.81	84
urban	inside	west	S2002	full	1.07	0.83	78
urban	inside	west	S2002	full	0.94	0.79	84
urban	inside	west	S2002	three	1.05	0.79	75
urban	inside	west	S2002	three	0.91	0.82	90
urban	inside	west	S2002	three	1.01	0.75	74
urban	inside	west	S2002	three	0.98	0.72	73
urban	inside	west	S2002	three	0.97	0.73	75
urban	inside	west	S2002	three	1.00	0.74	74
urban	inside	west	S2002	three	0.91	0.73	80
urban	inside	west	S2002	three	1.06	0.72	68
urban	inside	west	S2002	three	0.79	0.69	87
urban	inside	west	S2002	three	1.05	0.73	70
urban	inside	west	S2002	three	1.06	0.72	68
urban	inside	west	S2002	four	1.06	0.69	65
urban	inside	west	S2002	four	1.07	0.70	65
urban	inside	west	S2002	four	0.93	0.68	73
urban	inside	west	S2002	four	0.87	0.72	83
urban	inside	west	S2002	four	0.98	0.73	74
urban	inside	west	S2002	four	0.91	0.75	82
urban	inside	west	S2002	four	0.98	0.73	74
urban	inside	west	S2002	four	0.87	0.69	79
urban	inside	west	S2002	four	1.03	0.79	77
urban	inside	west	S2002	four	0.96	0.71	74
urban	inside	west	S2002	full	0.90	0.72	80
urban	inside	west	S2002	full	0.94	0.75	80

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	west	S2002	full	0.93	0.76	82
urban	inside	west	S2002	full	0.84	0.73	87
urban	inside	west	S2002	full	0.79	0.64	81
urban	inside	west	S2002	full	0.82	0.67	82
urban	inside	west	S2002	full	0.82	0.70	85
urban	inside	west	S2002	full	0.83	0.75	90
urban	inside	west	S2002	full	1.00	0.87	87
urban	inside	west	S2002	full	1.10	0.83	75
urban	inside	west	F2002	full	1.18	0.79	67
urban	inside	west	F2002	full	1.13	0.77	68
urban	inside	west	F2002	full	0.99	0.81	82
urban	inside	west	F2002	full	1.08	0.73	68
urban	inside	west	F2002	full	1.10	0.80	73
urban	inside	west	F2002	full	1.05	0.88	84
urban	inside	west	F2002	full	1.25	0.78	62
urban	inside	west	F2002	full	1.11	0.87	78
urban	inside	west	F2002	full	1.07	0.97	91
urban	inside	west	F2002	full	1.29	0.87	67
urban	inside	west	F2002	three	1.25	0.81	65
urban	inside	west	F2002	three	1.03	0.89	86
urban	inside	west	F2002	three	1.35	0.77	57
urban	inside	west	F2002	three	1.13	0.73	65
urban	inside	west	F2002	three	1.14	0.73	64
urban	inside	west	F2002	three	1.16	0.73	63
urban	inside	west	F2002	three	0.96	0.73	76
urban	inside	west	F2002	three	1.03	0.75	73
urban	inside	west	F2002	three	0.93	0.72	77
urban	inside	west	F2002	three	1.08	0.70	65
urban	inside	west	F2002	three	0.99	0.67	68
urban	inside	west	F2002	four	0.95	0.79	83
urban	inside	west	F2002	four	1.15	0.91	79
urban	inside	west	F2002	four	0.86	0.75	87
urban	inside	west	F2002	four	0.95	0.76	80
urban	inside	west	F2002	four	1.03	0.75	73
urban	inside	west	F2002	four	0.98	0.87	89
urban	inside	west	F2002	four	1.04	0.72	69
urban	inside	west	F2002	four	1.10	0.88	80
urban	inside	west	F2002	four	0.99	0.81	82
urban	inside	west	F2002	four	1.14	0.74	65
urban	inside	west	F2002	full	0.98	0.75	77
urban	inside	west	F2002	full	0.95	0.70	74
urban	inside	west	F2002	full	0.92	0.77	84
urban	inside	west	F2002	full	0.97	0.81	84
urban	inside	west	F2002	full	0.86	0.75	87
urban	inside	west	F2002	full	0.93	0.71	76
urban	inside	west	F2002	full	0.89	0.77	87
urban	inside	west	F2002	full	0.97	0.81	84
urban	inside	west	F2002	full	1.07	0.89	83
urban	inside	west	F2002	full	1.18	0.86	73
urban	inside	west	S2003	full	1.08	0.82	76
urban	inside	west	S2003	full	1.03	0.77	75
urban	inside	west	S2003	full	0.99	0.71	72
urban	inside	west	S2003	full	0.96	0.69	72
urban	inside	west	S2003	full	1.04	0.73	70
urban	inside	west	S2003	full	1.04	0.74	71
urban	inside	west	S2003	full	1.05	0.75	71
urban	inside	west	S2003	full	1.02	0.80	78
urban	inside	west	S2003	full	1.11	0.76	68
urban	inside	west	S2003	full	0.99	0.74	75
urban	inside	west	S2003	three	1.10	0.75	68
urban	inside	west	S2003	three	1.05	0.74	70
urban	inside	west	S2003	three	1.00	0.72	72

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	inside	west	S2003	three	0.95	0.68	72
urban	inside	west	S2003	three	0.93	0.69	74
urban	inside	west	S2003	three	0.95	0.67	71
urban	inside	west	S2003	three	0.97	0.71	73
urban	inside	west	S2003	three	0.99	0.68	69
urban	inside	west	S2003	three	0.95	0.66	69
urban	inside	west	S2003	three	1.10	0.66	60
urban	inside	west	S2003	three	1.03	0.65	63
urban	inside	west	S2003	four	1.05	0.66	63
urban	inside	west	S2003	four	1.09	0.66	61
urban	inside	west	S2003	four	0.85	0.64	75
urban	inside	west	S2003	four	0.96	0.63	66
urban	inside	west	S2003	four	0.96	0.68	71
urban	inside	west	S2003	four	0.90	0.71	79
urban	inside	west	S2003	four	1.00	0.66	66
urban	inside	west	S2003	four	8.00	0.71	9
urban	inside	west	S2003	four	1.11	0.73	66
urban	inside	west	S2003	four	1.00	0.70	70
urban	inside	west	S2003	full	0.91	0.71	78
urban	inside	west	S2003	full	0.91	0.76	84
urban	inside	west	S2003	full	0.94	0.75	80
urban	inside	west	S2003	full	0.89	0.75	84
urban	inside	west	S2003	full	0.80	0.70	88
urban	inside	west	S2003	full	0.78	0.64	82
urban	inside	west	S2003	full	0.85	0.71	84
urban	inside	west	S2003	full	0.92	0.76	83
urban	inside	west	S2003	full	1.04	0.87	84
urban	inside	west	S2003	full	1.15	0.82	71
urban	outside	east	F1998	zero	0.94	0.83	88
urban	outside	east	F1998	zero	0.83	0.75	90
urban	outside	east	F1998	zero	0.94	0.84	89
urban	outside	east	F1998	zero	0.98	0.89	91
urban	outside	east	F1998	zero	1.01	0.92	91
urban	outside	east	F1998	zero	1.00	0.92	92
urban	outside	east	F1998	zero	1.01	0.92	91
urban	outside	east	F1998	zero	0.99	0.90	91
urban	outside	east	F1998	zero	0.97	0.90	93
urban	outside	east	F1998	zero	0.84	0.77	92
urban	outside	east	F1998	three	0.97	0.86	89
urban	outside	east	F1998	three	0.86	0.77	90
urban	outside	east	F1998	three	0.82	0.73	89
urban	outside	east	F1998	three	0.66	0.62	94
urban	outside	east	F1998	three	0.92	0.81	88
urban	outside	east	F1998	three	0.84	0.75	89
urban	outside	east	F1998	three	0.94	0.81	86
urban	outside	east	F1998	three	0.77	0.69	90
urban	outside	east	F1998	three	0.85	0.75	88
urban	outside	east	F1998	three	0.76	0.69	91
urban	outside	east	F1998	three	0.75	0.69	92
urban	outside	east	F1998	four	0.84	0.76	90
urban	outside	east	F1998	four	0.75	0.69	92
urban	outside	east	F1998	four	0.80	0.72	90
urban	outside	east	F1998	four	0.75	0.68	91
urban	outside	east	F1998	four	0.96	0.86	90
urban	outside	east	F1998	four	0.80	0.73	91
urban	outside	east	F1998	four	0.86	0.76	88
urban	outside	east	F1998	four	0.86	0.78	91
urban	outside	east	F1998	four	0.82	0.74	90
urban	outside	east	F1998	four	0.79	0.71	90
urban	outside	east	F1998	full	0.76	0.69	91
urban	outside	east	F1998	full	0.81	0.74	91
urban	outside	east	F1998	full	0.84	0.75	89

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	east	F1998	full	0.91	0.81	89
urban	outside	east	F1998	full	0.74	0.66	89
urban	outside	east	F1998	full	0.66	0.61	92
urban	outside	east	F1998	full	0.74	0.66	89
urban	outside	east	F1998	full	0.75	0.68	91
urban	outside	east	F1998	full	0.84	0.78	93
urban	outside	east	F1998	full	1.03	0.92	89
urban	outside	east	S1999	zero	1.01	0.90	89
urban	outside	east	S1999	zero	0.78	0.72	92
urban	outside	east	S1999	zero	1.01	0.90	89
urban	outside	east	S1999	zero	1.01	0.90	89
urban	outside	east	S1999	zero	1.06	0.93	88
urban	outside	east	S1999	zero	1.06	0.97	92
urban	outside	east	S1999	zero	1.15	1.04	90
urban	outside	east	S1999	zero	1.01	0.92	91
urban	outside	east	S1999	zero	1.07	0.96	90
urban	outside	east	S1999	zero	1.08	0.97	90
urban	outside	east	S1999	three	1.01	0.89	88
urban	outside	east	S1999	three	0.99	0.89	90
urban	outside	east	S1999	three	0.94	0.84	89
urban	outside	east	S1999	three	0.92	0.83	90
urban	outside	east	S1999	three	0.87	0.79	91
urban	outside	east	S1999	three	0.92	0.82	89
urban	outside	east	S1999	three	1.00	0.88	88
urban	outside	east	S1999	three	0.83	0.74	89
urban	outside	east	S1999	three	0.83	0.75	90
urban	outside	east	S1999	three	0.81	0.74	91
urban	outside	east	S1999	three	0.95	0.86	91
urban	outside	east	S1999	four	0.94	0.85	90
urban	outside	east	S1999	four	0.90	0.81	90
urban	outside	east	S1999	four	0.90	0.83	92
urban	outside	east	S1999	four	0.92	0.85	92
urban	outside	east	S1999	four	1.01	0.93	92
urban	outside	east	S1999	four	0.96	0.88	92
urban	outside	east	S1999	four	0.88	0.81	92
urban	outside	east	S1999	four	0.86	0.78	91
urban	outside	east	S1999	four	0.89	0.80	90
urban	outside	east	S1999	four	0.91	0.81	89
urban	outside	east	S1999	full	0.98	0.86	88
urban	outside	east	S1999	full	0.93	0.83	89
urban	outside	east	S1999	full	0.98	0.86	88
urban	outside	east	S1999	full	1.05	0.91	87
urban	outside	east	S1999	full	0.83	0.74	89
urban	outside	east	S1999	full	1.05	0.89	85
urban	outside	east	S1999	full	1.07	0.93	87
urban	outside	east	S1999	full	1.17	1.01	86
urban	outside	east	S1999	full	0.99	0.91	92
urban	outside	east	S1999	full	1.23	1.09	89
urban	outside	east	F1999	zero	0.79	0.72	91
urban	outside	east	F1999	zero	0.70	0.67	96
urban	outside	east	F1999	zero	0.92	0.83	90
urban	outside	east	F1999	zero	0.98	0.80	82
urban	outside	east	F1999	zero	1.13	1.00	88
urban	outside	east	F1999	zero	1.11	1.00	90
urban	outside	east	F1999	zero	1.10	1.01	92
urban	outside	east	F1999	zero	1.17	1.07	91
urban	outside	east	F1999	zero	1.03	0.95	92
urban	outside	east	F1999	zero	0.99	0.91	92
urban	outside	east	F1999	three	1.01	0.91	90
urban	outside	east	F1999	three	0.83	0.76	92
urban	outside	east	F1999	three	0.80	0.71	89
urban	outside	east	F1999	three	0.72	0.64	89

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	east	F1999	three	0.75	0.67	89
urban	outside	east	F1999	three	0.70	0.63	90
urban	outside	east	F1999	three	0.71	0.65	92
urban	outside	east	F1999	three	0.76	0.70	92
urban	outside	east	F1999	three	0.77	0.71	92
urban	outside	east	F1999	three	0.78	0.73	94
urban	outside	east	F1999	three	0.75	0.71	95
urban	outside	east	F1999	four	0.73	0.68	93
urban	outside	east	F1999	four	0.86	0.77	90
urban	outside	east	F1999	four	0.73	0.68	93
urban	outside	east	F1999	four	0.76	0.71	93
urban	outside	east	F1999	four	0.85	0.81	95
urban	outside	east	F1999	four	0.82	0.75	91
urban	outside	east	F1999	four	0.77	0.72	94
urban	outside	east	F1999	four	0.82	0.76	93
urban	outside	east	F1999	four	0.81	0.74	91
urban	outside	east	F1999	four	0.83	0.75	90
urban	outside	east	F1999	full	0.82	0.75	91
urban	outside	east	F1999	full	0.78	0.71	91
urban	outside	east	F1999	full	0.83	0.74	89
urban	outside	east	F1999	full	0.75	0.69	92
urban	outside	east	F1999	full	0.64	0.59	92
urban	outside	east	F1999	full	0.72	0.66	92
urban	outside	east	F1999	full	0.72	0.66	92
urban	outside	east	F1999	full	0.83	0.75	90
urban	outside	east	F1999	full	0.77	0.71	92
urban	outside	east	F1999	full	0.80	0.73	91
urban	outside	east	S2000	zero	1.09	0.98	90
urban	outside	east	S2000	zero	1.00	0.90	90
urban	outside	east	S2000	zero	1.09	0.95	87
urban	outside	east	S2000	zero	1.15	1.08	94
urban	outside	east	S2000	zero	1.31	1.10	84
urban	outside	east	S2000	zero	1.34	1.19	89
urban	outside	east	S2000	zero	1.58	1.34	85
urban	outside	east	S2000	zero	1.34	1.14	85
urban	outside	east	S2000	zero	1.10	1.04	95
urban	outside	east	S2000	zero	1.09	1.00	92
urban	outside	east	S2000	three	1.18	1.01	86
urban	outside	east	S2000	three	1.17	1.01	86
urban	outside	east	S2000	three	1.04	0.95	91
urban	outside	east	S2000	three	1.07	0.97	91
urban	outside	east	S2000	three	1.17	1.05	90
urban	outside	east	S2000	three	1.14	1.01	89
urban	outside	east	S2000	three	1.09	0.95	87
urban	outside	east	S2000	three	1.18	0.91	77
urban	outside	east	S2000	three	1.10	0.94	85
urban	outside	east	S2000	three	1.14	1.04	91
urban	outside	east	S2000	three	1.23	1.09	89
urban	outside	east	S2000	four	1.20	1.06	88
urban	outside	east	S2000	four	1.11	0.95	86
urban	outside	east	S2000	four	1.04	0.98	94
urban	outside	east	S2000	four	1.06	0.96	91
urban	outside	east	S2000	four	1.19	1.09	92
urban	outside	east	S2000	four	1.28	1.07	84
urban	outside	east	S2000	four	1.17	1.05	90
urban	outside	east	S2000	four	1.09	0.95	87
urban	outside	east	S2000	four	1.05	0.94	90
urban	outside	east	S2000	four	1.00	0.86	86
urban	outside	east	S2000	full	1.07	0.99	93
urban	outside	east	S2000	full	1.12	0.99	88
urban	outside	east	S2000	full	1.08	0.99	92
urban	outside	east	S2000	full	1.10	1.01	92

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	east	S2000	full	0.96	0.87	91
urban	outside	east	S2000	full	1.02	0.95	93
urban	outside	east	S2000	full	1.05	0.97	92
urban	outside	east	S2000	full	1.11	1.02	92
urban	outside	east	S2000	full	1.09	1.04	95
urban	outside	east	S2000	full	1.11	1.02	92
urban	outside	east	F2000	zero	1.06	0.95	90
urban	outside	east	F2000	zero	1.19	1.00	84
urban	outside	east	F2000	zero	1.23	1.10	89
urban	outside	east	F2000	zero	1.30	1.16	89
urban	outside	east	F2000	zero	1.52	1.28	84
urban	outside	east	F2000	zero	1.37	1.19	87
urban	outside	east	F2000	zero	1.56	1.33	85
urban	outside	east	F2000	zero	1.49	1.18	79
urban	outside	east	F2000	zero	1.31	1.13	86
urban	outside	east	F2000	zero	1.28	1.12	88
urban	outside	east	F2000	three	1.22	1.04	85
urban	outside	east	F2000	three	1.27	1.02	80
urban	outside	east	F2000	three	1.24	0.94	76
urban	outside	east	F2000	three	1.30	0.99	76
urban	outside	east	F2000	three	1.29	0.98	76
urban	outside	east	F2000	three	1.23	1.12	91
urban	outside	east	F2000	three	1.42	1.10	77
urban	outside	east	F2000	three	1.31	1.02	78
urban	outside	east	F2000	three	1.33	0.97	73
urban	outside	east	F2000	three	1.24	1.05	85
urban	outside	east	F2000	three	1.29	1.06	82
urban	outside	east	F2000	four	1.25	1.05	84
urban	outside	east	F2000	four	1.29	1.02	79
urban	outside	east	F2000	four	1.19	1.03	87
urban	outside	east	F2000	four	1.35	1.05	78
urban	outside	east	F2000	four	1.22	1.06	87
urban	outside	east	F2000	four	1.29	1.11	86
urban	outside	east	F2000	four	1.17	1.05	90
urban	outside	east	F2000	four	1.09	0.98	90
urban	outside	east	F2000	four	1.20	1.03	86
urban	outside	east	F2000	four	1.19	1.02	86
urban	outside	east	F2000	full	1.07	0.98	92
urban	outside	east	F2000	full	1.14	0.98	86
urban	outside	east	F2000	full	1.04	1.02	98
urban	outside	east	F2000	full	1.17	0.99	85
urban	outside	east	F2000	full	1.08	0.92	85
urban	outside	east	F2000	full	1.05	0.98	93
urban	outside	east	F2000	full	1.01	0.98	97
urban	outside	east	F2000	full	1.35	1.18	87
urban	outside	east	F2000	full	1.47	1.29	88
urban	outside	east	F2000	full	1.62	1.26	78
urban	outside	east	S2001	zero	1.17	1.07	91
urban	outside	east	S2001	zero	1.16	1.05	91
urban	outside	east	S2001	zero	1.31	1.12	85
urban	outside	east	S2001	zero	1.28	1.17	91
urban	outside	east	S2001	zero	1.55	1.27	82
urban	outside	east	S2001	zero	1.25	1.17	94
urban	outside	east	S2001	zero	1.33	1.17	88
urban	outside	east	S2001	zero	1.21	1.08	89
urban	outside	east	S2001	zero	1.25	1.08	86
urban	outside	east	S2001	zero	1.19	1.01	85
urban	outside	east	S2001	three	1.35	0.99	73
urban	outside	east	S2001	three	1.17	0.90	77
urban	outside	east	S2001	three	1.14	0.84	74
urban	outside	east	S2001	three	1.19	0.96	81
urban	outside	east	S2001	three	1.16	1.03	89

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	east	S2001	three	1.13	0.96	85
urban	outside	east	S2001	three	1.08	0.91	84
urban	outside	east	S2001	three	1.09	0.98	90
urban	outside	east	S2001	three	1.11	0.96	86
urban	outside	east	S2001	three	1.07	0.98	92
urban	outside	east	S2001	three	1.13	0.98	87
urban	outside	east	S2001	four	1.12	0.95	85
urban	outside	east	S2001	four	1.16	1.00	86
urban	outside	east	S2001	four	1.23	1.06	86
urban	outside	east	S2001	four	1.25	1.08	86
urban	outside	east	S2001	four	1.24	1.01	81
urban	outside	east	S2001	four	1.13	1.00	88
urban	outside	east	S2001	four	1.13	0.95	84
urban	outside	east	S2001	four	1.11	0.92	83
urban	outside	east	S2001	four	1.15	1.01	88
urban	outside	east	S2001	four	1.13	0.99	88
urban	outside	east	S2001	full	1.07	0.98	92
urban	outside	east	S2001	full	1.02	0.92	90
urban	outside	east	S2001	full	1.03	0.98	95
urban	outside	east	S2001	full	1.09	0.97	89
urban	outside	east	S2001	full	1.02	0.92	90
urban	outside	east	S2001	full	1.05	0.91	87
urban	outside	east	S2001	full	0.97	0.92	95
urban	outside	east	S2001	full	1.14	1.04	91
urban	outside	east	S2001	full	1.27	1.04	82
urban	outside	east	S2001	full	1.25	1.06	85
urban	outside	east	F2001	zero	1.18	1.00	85
urban	outside	east	F2001	zero	1.05	0.89	85
urban	outside	east	F2001	zero	1.06	1.00	94
urban	outside	east	F2001	zero	1.32	1.15	87
urban	outside	east	F2001	zero	1.29	1.18	91
urban	outside	east	F2001	zero	1.29	1.14	88
urban	outside	east	F2001	zero	1.57	1.39	89
urban	outside	east	F2001	zero	1.31	1.17	89
urban	outside	east	F2001	zero	1.33	1.12	84
urban	outside	east	F2001	zero	1.29	1.10	85
urban	outside	east	F2001	three	1.23	1.10	89
urban	outside	east	F2001	three	1.50	1.22	81
urban	outside	east	F2001	three	1.34	1.22	91
urban	outside	east	F2001	three	1.25	1.13	90
urban	outside	east	F2001	three	1.32	1.18	89
urban	outside	east	F2001	three	1.42	1.25	88
urban	outside	east	F2001	three	1.41	1.26	89
urban	outside	east	F2001	three	1.20	1.07	89
urban	outside	east	F2001	three	1.26	1.14	90
urban	outside	east	F2001	three	1.30	1.16	89
urban	outside	east	F2001	three	1.40	1.26	90
urban	outside	east	F2001	four	1.45	1.27	88
urban	outside	east	F2001	four	1.27	1.15	91
urban	outside	east	F2001	four	1.39	1.23	88
urban	outside	east	F2001	four	1.47	1.28	87
urban	outside	east	F2001	four	1.50	1.28	85
urban	outside	east	F2001	four	1.32	1.19	90
urban	outside	east	F2001	four	1.20	1.06	88
urban	outside	east	F2001	four	1.04	0.95	91
urban	outside	east	F2001	four	1.18	1.05	89
urban	outside	east	F2001	four	1.14	0.96	84
urban	outside	east	F2001	full	1.01	0.91	90
urban	outside	east	F2001	full	1.12	0.98	88
urban	outside	east	F2001	full	1.28	1.09	85
urban	outside	east	F2001	full	1.17	1.07	91
urban	outside	east	F2001	full	0.99	0.92	93

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	east	F2001	full	1.20	1.10	92
urban	outside	east	F2001	full	1.32	1.22	92
urban	outside	east	F2001	full	1.63	1.44	88
urban	outside	east	F2001	full	1.62	1.42	88
urban	outside	east	F2001	full	1.47	1.33	90
urban	outside	east	S2002	zero	0.94	0.86	91
urban	outside	east	S2002	zero	0.91	0.79	87
urban	outside	east	S2002	zero	0.99	0.84	85
urban	outside	east	S2002	zero	1.02	0.90	88
urban	outside	east	S2002	zero	1.16	0.94	81
urban	outside	east	S2002	zero	1.20	1.02	85
urban	outside	east	S2002	zero	1.31	1.20	92
urban	outside	east	S2002	zero	1.31	1.12	85
urban	outside	east	S2002	zero	1.20	1.04	87
urban	outside	east	S2002	zero	1.04	0.92	88
urban	outside	east	S2002	three	1.10	0.92	84
urban	outside	east	S2002	three	1.09	0.86	79
urban	outside	east	S2002	three	1.04	0.85	82
urban	outside	east	S2002	three	1.13	0.89	79
urban	outside	east	S2002	three	1.02	0.92	90
urban	outside	east	S2002	three	0.99	0.91	92
urban	outside	east	S2002	three	0.97	0.87	90
urban	outside	east	S2002	three	1.00	0.84	84
urban	outside	east	S2002	three	1.02	0.84	82
urban	outside	east	S2002	three	1.13	1.02	90
urban	outside	east	S2002	three	1.22	1.04	85
urban	outside	east	S2002	four	1.12	1.01	90
urban	outside	east	S2002	four	1.14	0.94	82
urban	outside	east	S2002	four	1.25	0.93	74
urban	outside	east	S2002	four	1.26	0.91	72
urban	outside	east	S2002	four	1.22	1.04	85
urban	outside	east	S2002	four	1.19	0.96	81
urban	outside	east	S2002	four	1.06	0.97	92
urban	outside	east	S2002	four	1.03	0.90	87
urban	outside	east	S2002	four	1.12	0.91	81
urban	outside	east	S2002	four	1.10	0.92	84
urban	outside	east	S2002	full	1.05	0.92	88
urban	outside	east	S2002	full	1.06	0.87	82
urban	outside	east	S2002	full	1.05	0.91	87
urban	outside	east	S2002	full	1.08	0.93	86
urban	outside	east	S2002	full	0.92	0.83	90
urban	outside	east	S2002	full	1.05	0.91	87
urban	outside	east	S2002	full	1.00	0.88	88
urban	outside	east	S2002	full	1.29	1.12	87
urban	outside	east	S2002	full	1.27	1.10	87
urban	outside	east	S2002	full	1.36	1.14	84
urban	outside	east	F2002	zero	1.35	1.05	78
urban	outside	east	F2002	zero	1.46	1.17	80
urban	outside	east	F2002	zero	1.63	1.29	79
urban	outside	east	F2002	zero	1.61	1.33	83
urban	outside	east	F2002	zero	1.74	1.55	89
urban	outside	east	F2002	zero	1.75	1.45	83
urban	outside	east	F2002	zero	2.32	2.01	87
urban	outside	east	F2002	zero	1.76	1.51	86
urban	outside	east	F2002	zero	1.61	1.40	87
urban	outside	east	F2002	zero	1.75	1.41	81
urban	outside	east	F2002	three	1.54	1.34	87
urban	outside	east	F2002	three	1.44	1.25	87
urban	outside	east	F2002	three	1.51	1.35	89
urban	outside	east	F2002	three	1.39	1.23	88
urban	outside	east	F2002	three	1.51	1.31	87
urban	outside	east	F2002	three	1.35	1.17	87

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	east	F2002	three			
urban	outside	east	F2002	three	1.27	1.11	87
urban	outside	east	F2002	three	1.45	1.21	83
urban	outside	east	F2002	three	1.39	1.25	90
urban	outside	east	F2002	three	1.50	1.27	85
urban	outside	east	F2002	four	1.56	1.33	85
urban	outside	east	F2002	four	1.33	1.17	88
urban	outside	east	F2002	four	1.49	1.32	89
urban	outside	east	F2002	four	1.61	1.44	89
urban	outside	east	F2002	four	1.57	1.41	90
urban	outside	east	F2002	four	1.51	1.36	90
urban	outside	east	F2002	four	1.62	1.42	88
urban	outside	east	F2002	four	1.45	1.28	88
urban	outside	east	F2002	four	1.49	1.31	88
urban	outside	east	F2002	four	1.53	1.14	75
urban	outside	east	F2002	full	1.31	1.18	90
urban	outside	east	F2002	full	1.44	1.21	84
urban	outside	east	F2002	full	1.52	1.27	84
urban	outside	east	F2002	full	1.44	1.26	88
urban	outside	east	F2002	full	1.27	1.11	87
urban	outside	east	F2002	full	1.32	1.13	86
urban	outside	east	F2002	full	1.59	1.25	79
urban	outside	east	F2002	full	1.54	1.35	88
urban	outside	east	F2002	full	1.58	1.43	91
urban	outside	east	F2002	full	1.57	0.15	9
urban	outside	east	S2003	zero	1.02	0.87	85
urban	outside	east	S2003	zero	1.07	0.87	81
urban	outside	east	S2003	zero	1.24	1.01	82
urban	outside	east	S2003	zero	1.28	1.08	84
urban	outside	east	S2003	zero	1.35	1.08	80
urban	outside	east	S2003	zero	1.39	1.16	83
urban	outside	east	S2003	zero	1.50	1.22	81
urban	outside	east	S2003	zero	1.40	1.16	83
urban	outside	east	S2003	zero	1.34	1.17	87
urban	outside	east	S2003	zero	1.26	1.07	85
urban	outside	east	S2003	three	1.35	1.11	82
urban	outside	east	S2003	three	1.31	1.09	83
urban	outside	east	S2003	three	1.15	0.99	86
urban	outside	east	S2003	three	1.24	0.95	77
urban	outside	east	S2003	three	1.06	0.93	88
urban	outside	east	S2003	three	1.09	0.89	82
urban	outside	east	S2003	three	1.03	0.94	91
urban	outside	east	S2003	three	1.12	0.93	83
urban	outside	east	S2003	three	1.06	0.93	88
urban	outside	east	S2003	three	1.23	1.03	84
urban	outside	east	S2003	three	1.32	1.11	84
urban	outside	east	S2003	four	1.22	1.05	86
urban	outside	east	S2003	four	1.19	0.94	79
urban	outside	east	S2003	four	1.06	0.94	89
urban	outside	east	S2003	four	1.21	1.02	84
urban	outside	east	S2003	four	1.24	1.05	85
urban	outside	east	S2003	four	1.23	1.06	86
urban	outside	east	S2003	four	1.20	1.04	87
urban	outside	east	S2003	four	1.17	0.98	84
urban	outside	east	S2003	four	1.08	0.98	91
urban	outside	east	S2003	four	1.19	1.00	84
urban	outside	east	S2003	full	1.13	0.95	84
urban	outside	east	S2003	full	1.12	0.96	86
urban	outside	east	S2003	full	1.12	0.94	84
urban	outside	east	S2003	full	1.13	0.97	86
urban	outside	east	S2003	full	0.99	0.86	87
urban	outside	east	S2003	full	1.10	0.92	84

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	east	S2003	full	1.18	0.98	83
urban	outside	east	S2003	full	1.36	1.26	93
urban	outside	east	S2003	full	1.36	1.12	82
urban	outside	east	S2003	full	1.26	1.06	84
urban	outside	west	F1998	zero	1.22	1.04	85
urban	outside	west	F1998	zero	1.04	0.9	87
urban	outside	west	F1998	zero	1.02	0.89	87
urban	outside	west	F1998	zero	0.88	0.79	90
urban	outside	west	F1998	zero	1.06	0.93	88
urban	outside	west	F1998	zero	1.11	0.95	86
urban	outside	west	F1998	zero	0.96	0.86	90
urban	outside	west	F1998	zero	0.91	0.8	88
urban	outside	west	F1998	zero	0.9	0.79	88
urban	outside	west	F1998	zero	1.04	0.91	88
urban	outside	west	F1998	three	0.92	0.83	90
urban	outside	west	F1998	three	0.93	0.83	89
urban	outside	west	F1998	three	0.93	0.82	88
urban	outside	west	F1998	three	0.79	0.71	90
urban	outside	west	F1998	three	0.9	0.78	87
urban	outside	west	F1998	three	0.89	0.78	88
urban	outside	west	F1998	three	0.9	0.78	87
urban	outside	west	F1998	three	0.78	0.69	88
urban	outside	west	F1998	three	0.9	0.78	87
urban	outside	west	F1998	three	0.82	0.71	87
urban	outside	west	F1998	three	0.93	0.81	87
urban	outside	west	F1998	four	0.78	0.69	88
urban	outside	west	F1998	four	0.78	0.68	87
urban	outside	west	F1998	four	0.79	0.69	87
urban	outside	west	F1998	four	0.84	0.73	87
urban	outside	west	F1998	four	0.83	0.72	87
urban	outside	west	F1998	four	0.77	0.69	90
urban	outside	west	F1998	four	0.77	0.7	91
urban	outside	west	F1998	four	0.85	0.75	88
urban	outside	west	F1998	four	0.78	0.71	91
urban	outside	west	F1998	four	0.75	0.69	92
urban	outside	west	F1998	full	0.86	0.77	90
urban	outside	west	F1998	full	0.76	0.69	91
urban	outside	west	F1998	full	0.76	0.69	91
urban	outside	west	F1998	full	0.81	0.72	89
urban	outside	west	F1998	full	0.65	0.6	92
urban	outside	west	F1998	full	0.77	0.66	86
urban	outside	west	F1998	full	0.74	0.67	91
urban	outside	west	F1998	full	0.79	0.71	90
urban	outside	west	F1998	full	0.84	0.76	90
urban	outside	west	F1998	full	1.08	0.93	86
urban	outside	west	S1999	zero	1.6	1.23	77
urban	outside	west	S1999	zero	1.08	0.92	85
urban	outside	west	S1999	zero	1.14	0.96	84
urban	outside	west	S1999	zero	1.02	0.88	86
urban	outside	west	S1999	zero	1.29	1.09	84
urban	outside	west	S1999	zero	1.24	1.01	81
urban	outside	west	S1999	zero	0.95	0.84	88
urban	outside	west	S1999	zero	0.97	0.83	86
urban	outside	west	S1999	zero	1.07	0.89	83
urban	outside	west	S1999	zero	1.11	0.92	83
urban	outside	west	S1999	three	1.13	0.95	84
urban	outside	west	S1999	three	0.94	0.81	86
urban	outside	west	S1999	three	0.94	0.81	86
urban	outside	west	S1999	three	0.89	0.77	87
urban	outside	west	S1999	three	0.89	0.78	88
urban	outside	west	S1999	three	0.94	0.83	88
urban	outside	west	S1999	three	0.92	0.8	87

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	west	S1999	three	1.01	0.9	89
urban	outside	west	S1999	three	0.94	0.82	87
urban	outside	west	S1999	three	1.01	0.85	84
urban	outside	west	S1999	three	1.01	0.85	84
urban	outside	west	S1999	four	0.92	0.8	87
urban	outside	west	S1999	four	0.91	0.79	87
urban	outside	west	S1999	four	0.8	0.71	89
urban	outside	west	S1999	four	0.86	0.73	85
urban	outside	west	S1999	four	0.89	0.76	85
urban	outside	west	S1999	four	0.9	0.77	86
urban	outside	west	S1999	four	0.96	0.83	86
urban	outside	west	S1999	four	0.95	0.83	87
urban	outside	west	S1999	four	0.83	0.76	92
urban	outside	west	S1999	four	1.03	0.91	88
urban	outside	west	S1999	full	1.02	0.86	84
urban	outside	west	S1999	full	0.98	0.84	86
urban	outside	west	S1999	full	0.9	0.78	87
urban	outside	west	S1999	full	0.92	0.8	87
urban	outside	west	S1999	full	0.86	0.73	85
urban	outside	west	S1999	full	0.83	0.7	84
urban	outside	west	S1999	full	0.9	0.75	83
urban	outside	west	S1999	full	0.98	0.81	83
urban	outside	west	S1999	full	0.97	0.85	88
urban	outside	west	S1999	full	0.9	0.82	91
urban	outside	west	F1999	zero	1.03	0.91	88
urban	outside	west	F1999	zero	0.9	0.81	90
urban	outside	west	F1999	zero	0.84	0.75	89
urban	outside	west	F1999	zero	0.81	0.74	91
urban	outside	west	F1999	zero	0.75	0.7	93
urban	outside	west	F1999	zero	0.87	0.77	89
urban	outside	west	F1999	zero	0.9	0.8	89
urban	outside	west	F1999	zero	0.85	0.75	88
urban	outside	west	F1999	zero	1.13	0.94	83
urban	outside	west	F1999	zero	0.87	0.77	89
urban	outside	west	F1999	three	0.85	0.77	91
urban	outside	west	F1999	three	0.99	0.87	88
urban	outside	west	F1999	three	0.88	0.79	90
urban	outside	west	F1999	three	0.76	0.7	92
urban	outside	west	F1999	three	0.89	0.8	90
urban	outside	west	F1999	three	0.77	0.71	92
urban	outside	west	F1999	three	0.76	0.7	92
urban	outside	west	F1999	three	0.72	0.67	93
urban	outside	west	F1999	three	0.71	0.66	93
urban	outside	west	F1999	three	0.71	0.66	93
urban	outside	west	F1999	three	0.72	0.64	89
urban	outside	west	F1999	four	0.73	0.66	90
urban	outside	west	F1999	four	0.75	0.68	91
urban	outside	west	F1999	four	0.73	0.68	93
urban	outside	west	F1999	four	0.85	0.76	89
urban	outside	west	F1999	four	0.78	0.72	92
urban	outside	west	F1999	four	0.85	0.75	88
urban	outside	west	F1999	four	0.75	0.68	91
urban	outside	west	F1999	four	0.69	0.64	93
urban	outside	west	F1999	four	0.73	0.69	95
urban	outside	west	F1999	four	0.8	0.75	94
urban	outside	west	F1999	full	0.75	0.7	93
urban	outside	west	F1999	full	0.82	0.74	90
urban	outside	west	F1999	full	0.73	0.68	93
urban	outside	west	F1999	full	0.81	0.72	89
urban	outside	west	F1999	full	0.7	0.63	90
urban	outside	west	F1999	full	0.71	0.63	89
urban	outside	west	F1999	full	0.73	0.65	89

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	west	F1999	full	0.74	0.67	91
urban	outside	west	F1999	full	0.84	0.75	89
urban	outside	west	F1999	full	1.01	0.89	88
urban	outside	west	S2000	zero	1.40	1.06	76
urban	outside	west	S2000	zero	1.25	0.88	70
urban	outside	west	S2000	zero	1.18	0.80	68
urban	outside	west	S2000	zero	1.09	0.86	79
urban	outside	west	S2000	zero	1.20	0.92	77
urban	outside	west	S2000	zero	1.08	0.84	78
urban	outside	west	S2000	zero	1.11	0.98	88
urban	outside	west	S2000	zero	1.06	0.83	78
urban	outside	west	S2000	zero	1.08	1.02	94
urban	outside	west	S2000	zero	1.05	0.90	86
urban	outside	west	S2000	three	1.10	0.99	90
urban	outside	west	S2000	three	1.08	0.99	92
urban	outside	west	S2000	three	1.09	0.96	88
urban	outside	west	S2000	three	1.03	0.93	90
urban	outside	west	S2000	three	1.03	0.96	93
urban	outside	west	S2000	three	1.00	0.95	95
urban	outside	west	S2000	three	0.96	0.85	89
urban	outside	west	S2000	three	0.90	0.83	92
urban	outside	west	S2000	three	0.92	0.89	97
urban	outside	west	S2000	three	0.86	0.85	99
urban	outside	west	S2000	three	1.02	0.89	87
urban	outside	west	S2000	four	1.06	0.92	87
urban	outside	west	S2000	four	0.96	0.91	95
urban	outside	west	S2000	four	0.89	0.82	92
urban	outside	west	S2000	four	0.83	0.77	93
urban	outside	west	S2000	four	0.87	0.80	92
urban	outside	west	S2000	four	0.95	0.90	95
urban	outside	west	S2000	four	1.07	1.03	96
urban	outside	west	S2000	four	1.04	0.98	94
urban	outside	west	S2000	four	1.06	1.00	94
urban	outside	west	S2000	four	1.03	0.99	96
urban	outside	west	S2000	full	0.95	0.90	95
urban	outside	west	S2000	full	0.95	0.90	95
urban	outside	west	S2000	full	0.99	0.89	90
urban	outside	west	S2000	full	0.94	0.89	95
urban	outside	west	S2000	full	0.87	0.79	91
urban	outside	west	S2000	full	0.82	0.78	95
urban	outside	west	S2000	full	0.81	0.78	96
urban	outside	west	S2000	full	0.84	0.81	96
urban	outside	west	S2000	full	1.08	0.94	87
urban	outside	west	S2000	full	1.54	1.46	95
urban	outside	west	F2000	zero	1.43	0.95	66
urban	outside	west	F2000	zero	1.26	0.86	68
urban	outside	west	F2000	zero	1.26	0.82	65
urban	outside	west	F2000	zero	1.42	0.88	62
urban	outside	west	F2000	zero	1.42	0.92	65
urban	outside	west	F2000	zero	1.33	0.90	68
urban	outside	west	F2000	zero	1.35	0.87	64
urban	outside	west	F2000	zero	1.07	0.90	84
urban	outside	west	F2000	zero	1.26	0.89	71
urban	outside	west	F2000	zero	1.40	0.84	60
urban	outside	west	F2000	three	1.24	1.01	81
urban	outside	west	F2000	three	1.32	1.04	79
urban	outside	west	F2000	three	1.29	1.08	84
urban	outside	west	F2000	three	1.19	1.04	87
urban	outside	west	F2000	three	1.17	1.07	91
urban	outside	west	F2000	three	1.28	1.08	84
urban	outside	west	F2000	three	1.16	0.95	82
urban	outside	west	F2000	three	1.16	0.97	84

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	west	F2000	three	1.28	1.07	84
urban	outside	west	F2000	three	1.19	0.96	81
urban	outside	west	F2000	three	1.30	1.11	85
urban	outside	west	F2000	four	1.27	1.10	87
urban	outside	west	F2000	four	1.18	1.01	86
urban	outside	west	F2000	four	1.03	0.98	95
urban	outside	west	F2000	four	0.93	0.84	90
urban	outside	west	F2000	four	0.97	0.83	86
urban	outside	west	F2000	four	1.06	0.92	87
urban	outside	west	F2000	four	1.20	1.03	86
urban	outside	west	F2000	four	1.07	0.97	91
urban	outside	west	F2000	four	1.08	0.92	85
urban	outside	west	F2000	four	1.11	1.02	92
urban	outside	west	F2000	full	1.02	0.93	91
urban	outside	west	F2000	full	0.99	0.89	90
urban	outside	west	F2000	full	0.96	0.93	97
urban	outside	west	F2000	full	1.13	0.89	79
urban	outside	west	F2000	full	0.92	0.82	89
urban	outside	west	F2000	full	0.94	0.82	87
urban	outside	west	F2000	full	0.93	0.80	86
urban	outside	west	F2000	full	0.99	0.86	87
urban	outside	west	F2000	full	1.20	0.98	82
urban	outside	west	F2000	full	1.25	1.05	84
urban	outside	west	S2001	zero	1.34	1.08	81
urban	outside	west	S2001	zero	1.19	0.97	82
urban	outside	west	S2001	zero	1.12	0.88	79
urban	outside	west	S2001	zero	1.00	0.96	96
urban	outside	west	S2001	zero	1.18	0.92	78
urban	outside	west	S2001	zero	1.25	0.91	73
urban	outside	west	S2001	zero	1.14	0.95	83
urban	outside	west	S2001	zero	1.26	0.91	72
urban	outside	west	S2001	zero	1.30	0.96	74
urban	outside	west	S2001	zero	1.29	0.97	75
urban	outside	west	S2001	three	1.25	1.05	84
urban	outside	west	S2001	three	1.24	1.06	85
urban	outside	west	S2001	three	0.85	0.81	95
urban	outside	west	S2001	three	1.21	1.08	89
urban	outside	west	S2001	three	1.16	1.05	91
urban	outside	west	S2001	three	1.18	1.05	89
urban	outside	west	S2001	three	1.10	1.00	91
urban	outside	west	S2001	three	1.16	0.96	83
urban	outside	west	S2001	three	1.16	0.99	85
urban	outside	west	S2001	three	1.04	0.94	90
urban	outside	west	S2001	three	1.12	0.97	87
urban	outside	west	S2001	four	1.07	0.91	85
urban	outside	west	S2001	four	1.05	0.91	87
urban	outside	west	S2001	four	1.09	0.96	88
urban	outside	west	S2001	four	1.05	0.91	87
urban	outside	west	S2001	four	1.09	0.94	86
urban	outside	west	S2001	four	1.13	0.98	87
urban	outside	west	S2001	four	1.10	0.99	90
urban	outside	west	S2001	four	1.08	0.96	89
urban	outside	west	S2001	four	1.03	0.93	90
urban	outside	west	S2001	four	1.09	0.94	86
urban	outside	west	S2001	full	1.00	0.91	91
urban	outside	west	S2001	full	1.03	0.92	89
urban	outside	west	S2001	full	1.07	0.93	87
urban	outside	west	S2001	full	1.06	0.93	88
urban	outside	west	S2001	full	0.98	0.83	85
urban	outside	west	S2001	full	0.91	0.82	90
urban	outside	west	S2001	full	0.95	0.83	87
urban	outside	west	S2001	full	0.99	0.85	86

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	west	S2001	full	1.15	1.04	90
urban	outside	west	S2001	full	1.34	1.11	83
urban	outside	west	F2001	zero	1.16	1.04	90
urban	outside	west	F2001	zero	1.28	1.10	86
urban	outside	west	F2001	zero	1.06	0.91	86
urban	outside	west	F2001	zero	0.93	0.92	99
urban	outside	west	F2001	zero	1.14	0.98	86
urban	outside	west	F2001	zero	1.12	1.01	90
urban	outside	west	F2001	zero	1.11	0.87	78
urban	outside	west	F2001	zero	1.02	0.94	92
urban	outside	west	F2001	zero	1.02	0.90	88
urban	outside	west	F2001	zero	1.20	1.09	91
urban	outside	west	F2001	three	1.11	1.05	95
urban	outside	west	F2001	three	1.10	0.99	90
urban	outside	west	F2001	three	1.14	1.05	92
urban	outside	west	F2001	three	1.08	1.00	93
urban	outside	west	F2001	three	1.14	1.01	89
urban	outside	west	F2001	three	1.09	1.02	94
urban	outside	west	F2001	three	1.09	1.03	94
urban	outside	west	F2001	three	1.04	0.96	92
urban	outside	west	F2001	three	0.99	0.88	89
urban	outside	west	F2001	three	1.00	0.93	93
urban	outside	west	F2001	three	1.06	0.95	90
urban	outside	west	F2001	four	1.00	0.91	91
urban	outside	west	F2001	four	1.00	0.89	89
urban	outside	west	F2001	four	0.88	0.80	91
urban	outside	west	F2001	four	0.97	0.89	92
urban	outside	west	F2001	four	1.05	0.94	90
urban	outside	west	F2001	four	0.96	0.87	91
urban	outside	west	F2001	four	1.08	0.99	92
urban	outside	west	F2001	four	1.13	1.03	91
urban	outside	west	F2001	four	1.14	1.06	93
urban	outside	west	F2001	four	1.16	1.06	91
urban	outside	west	F2001	full	1.14	1.04	91
urban	outside	west	F2001	full	1.08	0.96	89
urban	outside	west	F2001	full	1.24	1.11	90
urban	outside	west	F2001	full	1.15	1.04	90
urban	outside	west	F2001	full	0.88	0.79	90
urban	outside	west	F2001	full	0.83	0.77	93
urban	outside	west	F2001	full	0.87	0.80	92
urban	outside	west	F2001	full	0.89	0.82	92
urban	outside	west	F2001	full	1.06	0.95	90
urban	outside	west	F2001	full	1.20	1.05	88
urban	outside	west	S2002	zero	1.21	0.96	79
urban	outside	west	S2002	zero	0.97	0.82	85
urban	outside	west	S2002	zero	0.89	0.77	87
urban	outside	west	S2002	zero	0.88	0.79	90
urban	outside	west	S2002	zero	0.98	0.80	82
urban	outside	west	S2002	zero	1.00	0.78	78
urban	outside	west	S2002	zero	0.99	0.86	87
urban	outside	west	S2002	zero	0.94	0.83	88
urban	outside	west	S2002	zero	1.01	0.87	86
urban	outside	west	S2002	zero	1.08	0.81	75
urban	outside	west	S2002	three	1.05	0.89	85
urban	outside	west	S2002	three	1.04	0.87	84
urban	outside	west	S2002	three	0.98	0.88	90
urban	outside	west	S2002	three	0.96	0.89	93
urban	outside	west	S2002	three	0.98	0.91	93
urban	outside	west	S2002	three	1.01	0.90	89
urban	outside	west	S2002	three	0.96	0.85	89
urban	outside	west	S2002	three	0.93	0.80	86
urban	outside	west	S2002	three	0.95	0.88	93

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	west	S2002	three	0.98	0.86	88
urban	outside	west	S2002	three	0.91	0.85	93
urban	outside	west	S2002	four	0.98	0.86	88
urban	outside	west	S2002	four	0.95	0.82	86
urban	outside	west	S2002	four	0.95	0.86	91
urban	outside	west	S2002	four	0.92	0.84	91
urban	outside	west	S2002	four	0.95	0.86	91
urban	outside	west	S2002	four	0.98	0.87	89
urban	outside	west	S2002	four	0.98	0.87	89
urban	outside	west	S2002	four	0.92	0.78	85
urban	outside	west	S2002	four	0.97	0.86	89
urban	outside	west	S2002	four	1.00	0.84	84
urban	outside	west	S2002	full	0.91	0.86	95
urban	outside	west	S2002	full			
urban	outside	west	S2002	full	0.97	0.82	85
urban	outside	west	S2002	full	1.02	0.80	78
urban	outside	west	S2002	full	0.85	0.71	84
urban	outside	west	S2002	full	0.78	0.70	90
urban	outside	west	S2002	full	0.86	0.75	87
urban	outside	west	S2002	full	0.89	0.77	87
urban	outside	west	S2002	full	1.10	0.93	85
urban	outside	west	S2002	full	1.20	1.04	87
urban	outside	west	F2002	zero	1.81	1.09	60
urban	outside	west	F2002	zero	1.61	1.00	62
urban	outside	west	F2002	zero	1.33	1.01	76
urban	outside	west	F2002	zero	1.29	1.08	84
urban	outside	west	F2002	zero	1.37	1.17	85
urban	outside	west	F2002	zero	1.65	0.96	58
urban	outside	west	F2002	zero	1.71	1.41	82
urban	outside	west	F2002	zero	1.31	1.09	83
urban	outside	west	F2002	zero	1.39	1.15	83
urban	outside	west	F2002	zero	1.29	0.94	73
urban	outside	west	F2002	three	1.31	1.08	82
urban	outside	west	F2002	three	1.27	1.20	94
urban	outside	west	F2002	three	1.35	1.18	87
urban	outside	west	F2002	three	1.46	1.22	84
urban	outside	west	F2002	three	1.35	1.19	88
urban	outside	west	F2002	three	1.47	1.26	86
urban	outside	west	F2002	three	1.34	1.19	89
urban	outside	west	F2002	three	1.20	1.07	89
urban	outside	west	F2002	three	1.20	1.14	95
urban	outside	west	F2002	three	1.41	1.15	82
urban	outside	west	F2002	three	1.02	0.88	86
urban	outside	west	F2002	four	1.22	1.04	86
urban	outside	west	F2002	four	1.26	1.07	85
urban	outside	west	F2002	four	1.14	0.99	87
urban	outside	west	F2002	four	1.23	1.05	85
urban	outside	west	F2002	four	1.21	1.05	87
urban	outside	west	F2002	four	1.21	0.88	73
urban	outside	west	F2002	four	1.33	1.14	86
urban	outside	west	F2002	four	1.45	1.22	84
urban	outside	west	F2002	four	1.23	1.07	87
urban	outside	west	F2002	four	1.44	1.18	82
urban	outside	west	F2002	full	1.24	1.00	81
urban	outside	west	F2002	full	1.28	1.07	84
urban	outside	west	F2002	full	1.37	1.17	85
urban	outside	west	F2002	full	1.41	1.16	82
urban	outside	west	F2002	full	1.29	0.99	77
urban	outside	west	F2002	full	1.21	1.03	85
urban	outside	west	F2002	full	1.23	1.03	84
urban	outside	west	F2002	full	1.31	1.04	79
urban	outside	west	F2002	full	1.39	1.14	82

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
urban	outside	west	F2002	full	1.55	1.31	85
urban	outside	west	S2003	zero	1.31	0.95	73
urban	outside	west	S2003	zero	1.20	0.82	68
urban	outside	west	S2003	zero	1.07	0.81	76
urban	outside	west	S2003	zero	1.20	0.84	70
urban	outside	west	S2003	zero	1.25	0.88	70
urban	outside	west	S2003	zero	1.40	0.90	64
urban	outside	west	S2003	zero	1.19	1.02	86
urban	outside	west	S2003	zero	1.18	0.86	73
urban	outside	west	S2003	zero	1.35	0.88	65
urban	outside	west	S2003	zero	1.30	0.87	67
urban	outside	west	S2003	three	1.11	0.95	86
urban	outside	west	S2003	three	1.09	0.89	82
urban	outside	west	S2003	three	1.08	0.96	89
urban	outside	west	S2003	three	1.14	0.95	83
urban	outside	west	S2003	three	1.07	0.95	89
urban	outside	west	S2003	three	1.18	0.98	83
urban	outside	west	S2003	three	1.23	1.03	84
urban	outside	west	S2003	three	1.29	1.02	79
urban	outside	west	S2003	three	1.34	1.08	81
urban	outside	west	S2003	three	1.22	1.01	83
urban	outside	west	S2003	three	1.14	0.94	82
urban	outside	west	S2003	four	1.14	0.95	83
urban	outside	west	S2003	four	1.09	0.91	83
urban	outside	west	S2003	four	1.08	0.87	81
urban	outside	west	S2003	four	1.02	0.87	85
urban	outside	west	S2003	four	1.03	0.88	85
urban	outside	west	S2003	four	1.11	0.93	84
urban	outside	west	S2003	four	1.07	0.92	86
urban	outside	west	S2003	four	1.03	0.92	89
urban	outside	west	S2003	four	1.11	0.97	87
urban	outside	west	S2003	four	1.16	0.98	84
urban	outside	west	S2003	full	1.10	0.97	88
urban	outside	west	S2003	full	1.14	0.99	87
urban	outside	west	S2003	full	1.12	0.93	83
urban	outside	west	S2003	full	1.12	0.92	82
urban	outside	west	S2003	full	1.02	0.86	84
urban	outside	west	S2003	full	0.90	0.76	84
urban	outside	west	S2003	full	0.94	0.81	86
urban	outside	west	S2003	full	1.01	0.90	89
urban	outside	west	S2003	full	1.17	0.96	82
urban	outside	west	S2003	full	1.27	1.03	81
rural	inside	south	F1998	zero	2.52	1.91	76
rural	inside	south	F1998	zero	1.62	1.32	81
rural	inside	south	F1998	zero	1.27	1.03	81
rural	inside	south	F1998	zero	1.35	1.09	81
rural	inside	south	F1998	zero	1.54	1.27	82
rural	inside	south	F1998	zero	1.83	1.45	79
rural	inside	south	F1998	zero	2.16	1.70	79
rural	inside	south	F1998	zero	2.08	1.63	78
rural	inside	south	F1998	zero	1.29	1.07	83
rural	inside	south	F1998	zero	1.29	1.06	82
rural	inside	south	F1998	zero	2.02	1.58	78
rural	inside	south	F1998	zero	1.97	1.55	79
rural	inside	south	F1998	three	2.32	1.81	78
rural	inside	south	F1998	three	2.79	2.23	80
rural	inside	south	F1998	three	2.04	1.68	82
rural	inside	south	F1998	three	2.34	1.88	80
rural	inside	south	F1998	three	3.04	2.40	79
rural	inside	south	F1998	three	1.89	1.53	81
rural	inside	south	F1998	three	2.67	2.12	79
rural	inside	south	F1998	three	2.04	1.67	82

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	F1998	three	2.87	2.30	80
rural	inside	south	F1998	three	2.68	2.10	78
rural	inside	south	F1998	three	2.21	1.73	78
rural	inside	south	F1998	three	2.26	1.80	80
rural	inside	south	F1998	three	2.52	2.00	79
rural	inside	south	F1998	three	2.05	1.61	79
rural	inside	south	F1998	three	2.77	2.13	77
rural	inside	south	F1998	three	2.33	1.79	77
rural	inside	south	F1998	three	2.63	2.01	76
rural	inside	south	F1998	three	2.62	2.02	77
rural	inside	south	F1998	three	2.60	2.03	78
rural	inside	south	F1998	three	2.42	1.86	77
rural	inside	south	F1998	four	2.00	1.54	77
rural	inside	south	F1998	four	1.77	1.37	77
rural	inside	south	F1998	four	2.13	1.64	77
rural	inside	south	F1998	four	1.66	1.30	78
rural	inside	south	F1998	four	2.32	1.78	77
rural	inside	south	F1998	four	1.46	1.16	79
rural	inside	south	F1998	four	1.68	1.30	77
rural	inside	south	F1998	four	2.02	1.53	76
rural	inside	south	F1998	four	1.76	1.35	77
rural	inside	south	F1998	four	2.26	1.71	76
rural	inside	south	F1998	four	3.19	2.37	74
rural	inside	south	F1998	four	2.27	1.71	75
rural	inside	south	F1998	four	1.81	1.39	77
rural	inside	south	F1998	four	2.44	1.82	75
rural	inside	south	F1998	four	2.17	1.64	76
rural	inside	south	F1998	four	1.70	1.34	79
rural	inside	south	F1998	four	2.20	1.64	75
rural	inside	south	F1998	four	2.51	1.90	76
rural	inside	south	F1998	four	1.88	1.42	76
rural	inside	south	F1998	four	2.01	1.57	78
rural	inside	south	F1998	full	1.89	1.44	76
rural	inside	south	F1998	full	1.42	1.13	80
rural	inside	south	F1998	full	1.40	1.09	78
rural	inside	south	F1998	full	1.43	1.12	78
rural	inside	south	F1998	full	1.15	0.96	83
rural	inside	south	F1998	full	1.75	1.32	75
rural	inside	south	F1998	full	1.38	1.09	79
rural	inside	south	F1998	full	1.27	0.88	69
rural	inside	south	F1998	full	1.27	1.02	80
rural	inside	south	F1998	full	1.36	1.08	79
rural	inside	south	F1998	full	1.42	1.16	82
rural	inside	south	F1998	full	1.39	1.09	78
rural	inside	south	F1998	full	1.24	1.07	86
rural	inside	south	F1998	full	1.25	1.01	81
rural	inside	south	F1998	full	1.39	1.10	79
rural	inside	south	F1998	full	1.29	1.03	80
rural	inside	south	F1998	full	1.20	0.99	83
rural	inside	south	F1998	full	1.30	1.05	81
rural	inside	south	F1998	full	1.30	1.04	80
rural	inside	south	F1998	full	1.47	1.13	77
rural	inside	south	S1999	zero	1.29	1.08	84
rural	inside	south	S1999	zero	0.93	0.81	87
rural	inside	south	S1999	zero	0.91	0.81	89
rural	inside	south	S1999	zero	1.37	1.10	80
rural	inside	south	S1999	zero	1.01	0.90	89
rural	inside	south	S1999	zero	1.05	0.90	86
rural	inside	south	S1999	zero	1.00	0.84	84
rural	inside	south	S1999	zero	1.01	0.85	84
rural	inside	south	S1999	zero	1.06	0.87	82
rural	inside	south	S1999	zero	1.02	0.85	83

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	S1999	zero	1.52	1.22	80
rural	inside	south	S1999	zero	1.38	1.11	80
rural	inside	south	S1999	three	1.29	1.05	81
rural	inside	south	S1999	three	1.26	1.05	83
rural	inside	south	S1999	three	1.08	0.96	89
rural	inside	south	S1999	three	1.25	1.05	84
rural	inside	south	S1999	three	1.84	1.46	79
rural	inside	south	S1999	three	1.29	1.06	82
rural	inside	south	S1999	three	1.42	1.19	84
rural	inside	south	S1999	three	1.22	1.03	84
rural	inside	south	S1999	three	1.73	1.41	82
rural	inside	south	S1999	three	1.28	1.10	86
rural	inside	south	S1999	three	1.54	1.26	82
rural	inside	south	S1999	three	1.17	0.99	85
rural	inside	south	S1999	three	1.23	1.01	82
rural	inside	south	S1999	three	1.28	1.07	84
rural	inside	south	S1999	three	1.54	1.21	79
rural	inside	south	S1999	three	1.36	1.09	80
rural	inside	south	S1999	three	1.08	0.93	86
rural	inside	south	S1999	three	1.78	1.36	76
rural	inside	south	S1999	three	1.17	0.99	85
rural	inside	south	S1999	three	1.36	1.10	81
rural	inside	south	S1999	four	1.75	1.34	77
rural	inside	south	S1999	four	1.19	0.99	83
rural	inside	south	S1999	four	1.01	0.87	86
rural	inside	south	S1999	four	1.07	0.90	84
rural	inside	south	S1999	four	1.28	1.03	80
rural	inside	south	S1999	four	1.35	1.07	79
rural	inside	south	S1999	four	1.32	1.06	80
rural	inside	south	S1999	four	1.21	0.97	80
rural	inside	south	S1999	four	0.97	0.82	85
rural	inside	south	S1999	four	1.13	0.95	84
rural	inside	south	S1999	four	1.52	1.15	76
rural	inside	south	S1999	four	1.14	0.95	83
rural	inside	south	S1999	four	1.27	1.01	80
rural	inside	south	S1999	four	1.30	1.03	79
rural	inside	south	S1999	four	1.27	1.03	81
rural	inside	south	S1999	four	1.36	1.06	78
rural	inside	south	S1999	four	1.82	1.36	75
rural	inside	south	S1999	four	1.33	1.09	82
rural	inside	south	S1999	four	1.46	1.20	82
rural	inside	south	S1999	four	1.19	1.02	86
rural	inside	south	S1999	full	1.40	1.12	80
rural	inside	south	S1999	full	1.14	0.95	83
rural	inside	south	S1999	full	1.45	1.11	77
rural	inside	south	S1999	full	1.03	0.91	88
rural	inside	south	S1999	full	0.99	0.86	87
rural	inside	south	S1999	full	1.05	0.90	86
rural	inside	south	S1999	full	1.02	0.90	88
rural	inside	south	S1999	full	1.01	0.85	84
rural	inside	south	S1999	full	1.31	1.04	79
rural	inside	south	S1999	full	1.17	0.95	81
rural	inside	south	S1999	full	1.34	1.10	82
rural	inside	south	S1999	full	1.00	0.90	90
rural	inside	south	S1999	full	1.33	1.09	82
rural	inside	south	S1999	full	0.97	0.86	89
rural	inside	south	S1999	full	1.02	0.87	85
rural	inside	south	S1999	full	1.01	0.88	87
rural	inside	south	S1999	full	1.32	1.07	81
rural	inside	south	S1999	full	1.19	1.00	84
rural	inside	south	S1999	full	1.18	0.95	81
rural	inside	south	S1999	full	1.56	1.18	76

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	F1999	zero	1.12	0.98	88
rural	inside	south	F1999	zero	1.22	1.05	86
rural	inside	south	F1999	zero	0.93	0.85	91
rural	inside	south	F1999	zero	1.04	0.90	87
rural	inside	south	F1999	zero	1.01	0.80	79
rural	inside	south	F1999	zero	0.96	0.88	92
rural	inside	south	F1999	zero	1.04	0.92	88
rural	inside	south	F1999	zero	1.08	0.97	90
rural	inside	south	F1999	zero	1.33	1.13	85
rural	inside	south	F1999	zero	1.24	1.06	85
rural	inside	south	F1999	zero	1.02	0.91	89
rural	inside	south	F1999	zero	1.34	1.12	84
rural	inside	south	F1999	zero	1.18	1.07	91
rural	inside	south	F1999	zero	1.11	1.01	91
rural	inside	south	F1999	zero	1.19	1.00	84
rural	inside	south	F1999	zero	1.01	0.92	91
rural	inside	south	F1999	zero	0.98	0.88	90
rural	inside	south	F1999	zero	0.98	0.88	90
rural	inside	south	F1999	zero	1.33	1.12	84
rural	inside	south	F1999	zero	1.10	0.99	90
rural	inside	south	F1999	three	1.04	0.94	90
rural	inside	south	F1999	three	1.21	1.05	87
rural	inside	south	F1999	three	1.44	1.21	84
rural	inside	south	F1999	three	1.61	1.32	82
rural	inside	south	F1999	three	1.06	0.93	88
rural	inside	south	F1999	three	1.28	1.08	84
rural	inside	south	F1999	three	1.14	1.01	89
rural	inside	south	F1999	three	1.06	0.94	89
rural	inside	south	F1999	three	1.26	1.10	87
rural	inside	south	F1999	three	1.13	1.01	89
rural	inside	south	F1999	three	1.08	0.95	88
rural	inside	south	F1999	three	1.14	0.99	87
rural	inside	south	F1999	three	1.09	0.96	88
rural	inside	south	F1999	three	1.19	1.01	85
rural	inside	south	F1999	three	1.53	1.22	80
rural	inside	south	F1999	three	1.08	0.94	87
rural	inside	south	F1999	three	1.29	1.06	82
rural	inside	south	F1999	three	1.09	0.96	88
rural	inside	south	F1999	three	1.62	1.27	78
rural	inside	south	F1999	three	1.19	1.03	87
rural	inside	south	F1999	four	1.79	1.36	76
rural	inside	south	F1999	four	1.34	1.08	81
rural	inside	south	F1999	four	1.53	1.19	78
rural	inside	south	F1999	four	1.33	1.11	83
rural	inside	south	F1999	four	1.14	1.04	91
rural	inside	south	F1999	four	1.01	0.89	88
rural	inside	south	F1999	four	1.14	1.08	95
rural	inside	south	F1999	four	1.24	1.01	81
rural	inside	south	F1999	four	1.01	0.89	88
rural	inside	south	F1999	four	1.20	1.00	83
rural	inside	south	F1999	four	1.22	1.18	97
rural	inside	south	F1999	four	1.28	1.09	85
rural	inside	south	F1999	four	1.49	1.22	82
rural	inside	south	F1999	four	1.07	0.96	90
rural	inside	south	F1999	four	1.44	1.15	80
rural	inside	south	F1999	four	1.28	1.11	87
rural	inside	south	F1999	four	1.88	1.42	76
rural	inside	south	F1999	four	1.17	1.04	89
rural	inside	south	F1999	four	1.95	1.51	77
rural	inside	south	F1999	four	1.34	1.17	87
rural	inside	south	F1999	full	1.26	1.13	90
rural	inside	south	F1999	full	1.35	1.07	79

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	F1999	full	1.17	0.98	84
rural	inside	south	F1999	full	1.09	0.96	88
rural	inside	south	F1999	full	1.03	0.90	87
rural	inside	south	F1999	full	1.31	1.07	82
rural	inside	south	F1999	full	1.12	0.95	85
rural	inside	south	F1999	full	1.40	1.07	76
rural	inside	south	F1999	full	1.11	0.95	86
rural	inside	south	F1999	full	1.15	0.96	83
rural	inside	south	F1999	full	1.11	0.99	89
rural	inside	south	F1999	full	1.15	1.05	91
rural	inside	south	F1999	full	1.23	1.04	85
rural	inside	south	F1999	full	1.09	0.94	86
rural	inside	south	F1999	full	0.91	0.80	88
rural	inside	south	F1999	full	0.94	0.87	93
rural	inside	south	F1999	full	1.11	0.95	86
rural	inside	south	F1999	full	1.30	1.05	81
rural	inside	south	F1999	full	1.11	0.93	84
rural	inside	south	F1999	full	1.22	0.99	81
rural	inside	south	S2000	zero	1.49	1.23	83
rural	inside	south	S2000	zero	1.50	0.83	55
rural	inside	south	S2000	zero	1.25	0.96	77
rural	inside	south	S2000	zero	1.67	0.75	45
rural	inside	south	S2000	zero	1.63	0.79	48
rural	inside	south	S2000	zero	1.79	0.72	40
rural	inside	south	S2000	zero	1.49	0.94	63
rural	inside	south	S2000	zero	1.21	1.17	97
rural	inside	south	S2000	zero	1.35	1.16	86
rural	inside	south	S2000	zero	1.39	1.08	78
rural	inside	south	S2000	zero	1.29	1.01	78
rural	inside	south	S2000	zero	1.72	0.92	53
rural	inside	south	S2000	zero	1.51	1.14	75
rural	inside	south	S2000	zero	1.32	0.93	70
rural	inside	south	S2000	zero	1.25	0.97	78
rural	inside	south	S2000	zero	1.12	1.10	98
rural	inside	south	S2000	zero	1.37	0.96	70
rural	inside	south	S2000	zero	1.17	1.03	88
rural	inside	south	S2000	zero	1.20	1.17	98
rural	inside	south	S2000	zero	1.36	1.16	85
rural	inside	south	S2000	three	1.38	1.19	86
rural	inside	south	S2000	three	1.27	1.15	91
rural	inside	south	S2000	three	1.40	1.26	90
rural	inside	south	S2000	three	1.29	1.18	91
rural	inside	south	S2000	three	1.23	1.17	95
rural	inside	south	S2000	three	1.15	1.13	98
rural	inside	south	S2000	three	1.29	1.23	95
rural	inside	south	S2000	three	1.45	1.18	81
rural	inside	south	S2000	three	1.44	1.32	92
rural	inside	south	S2000	three	1.35	1.27	94
rural	inside	south	S2000	three	1.34	1.18	88
rural	inside	south	S2000	three	1.37	1.05	77
rural	inside	south	S2000	three	1.32	1.22	92
rural	inside	south	S2000	three	1.64	1.25	76
rural	inside	south	S2000	three	2.06	0.92	45
rural	inside	south	S2000	three	2.02	0.85	42
rural	inside	south	S2000	three	1.76	0.93	53
rural	inside	south	S2000	three	2.16	0.89	41
rural	inside	south	S2000	three	1.67	1.05	63
rural	inside	south	S2000	three	1.38	1.22	88
rural	inside	south	S2000	four	1.46	1.06	73
rural	inside	south	S2000	four	1.77	0.91	51
rural	inside	south	S2000	four	1.33	1.14	86
rural	inside	south	S2000	four	1.32	1.14	86

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	S2000	four	1.66	0.77	46
rural	inside	south	S2000	four	1.37	1.10	80
rural	inside	south	S2000	four	1.46	0.94	64
rural	inside	south	S2000	four	1.46	0.98	67
rural	inside	south	S2000	four	1.65	0.72	44
rural	inside	south	S2000	four	1.38	0.89	64
rural	inside	south	S2000	four	1.78	0.70	39
rural	inside	south	S2000	four	1.68	0.77	46
rural	inside	south	S2000	four	1.85	0.68	37
rural	inside	south	S2000	four	1.60	0.81	51
rural	inside	south	S2000	four	1.29	1.12	87
rural	inside	south	S2000	four	1.96	0.68	35
rural	inside	south	S2000	four	1.33	1.03	77
rural	inside	south	S2000	four	1.82	0.84	46
rural	inside	south	S2000	four	1.64	1.26	77
rural	inside	south	S2000	four	1.41	1.20	85
rural	inside	south	S2000	full	1.38	1.20	87
rural	inside	south	S2000	full	1.52	1.18	78
rural	inside	south	S2000	full	1.20	1.05	88
rural	inside	south	S2000	full	1.41	1.09	77
rural	inside	south	S2000	full	1.27	1.05	83
rural	inside	south	S2000	full	1.35	1.15	85
rural	inside	south	S2000	full	1.17	1.00	85
rural	inside	south	S2000	full	1.09	1.08	99
rural	inside	south	S2000	full	1.38	1.19	86
rural	inside	south	S2000	full	1.20	1.09	91
rural	inside	south	S2000	full	1.23	1.16	94
rural	inside	south	S2000	full	1.20	1.14	95
rural	inside	south	S2000	full	1.27	1.15	91
rural	inside	south	S2000	full	1.24	1.03	83
rural	inside	south	S2000	full	1.52	1.20	79
rural	inside	south	S2000	full	1.10	1.07	97
rural	inside	south	S2000	full	1.19	1.10	92
rural	inside	south	S2000	full	1.29	1.19	92
rural	inside	south	S2000	full	1.18	1.15	97
rural	inside	south	S2000	full	1.11	1.06	95
rural	inside	south	F2000	zero	2.18	0.64	29
rural	inside	south	F2000	zero	2.18	0.64	29
rural	inside	south	F2000	zero	2.07	0.61	29
rural	inside	south	F2000	zero	2.23	0.58	26
rural	inside	south	F2000	zero	1.98	0.60	30
rural	inside	south	F2000	zero	2.44	0.57	23
rural	inside	south	F2000	zero	2.66	0.63	24
rural	inside	south	F2000	zero	2.40	0.64	27
rural	inside	south	F2000	zero	2.10	0.70	33
rural	inside	south	F2000	zero	2.24	0.62	28
rural	inside	south	F2000	zero	2.27	0.68	30
rural	inside	south	F2000	zero	1.63	1.10	67
rural	inside	south	F2000	zero	2.40	0.69	29
rural	inside	south	F2000	zero	1.92	0.59	31
rural	inside	south	F2000	zero	2.04	0.64	31
rural	inside	south	F2000	zero	1.93	0.78	40
rural	inside	south	F2000	zero	1.99	0.74	37
rural	inside	south	F2000	zero	2.06	0.83	40
rural	inside	south	F2000	zero	2.34	0.90	38
rural	inside	south	F2000	zero	1.87	1.12	60
rural	inside	south	F2000	three	2.72	0.96	35
rural	inside	south	F2000	three	1.95	1.16	59
rural	inside	south	F2000	three	2.28	0.92	40
rural	inside	south	F2000	three	2.47	0.92	37
rural	inside	south	F2000	three	2.22	0.85	38
rural	inside	south	F2000	three	2.27	0.89	39

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	F2000	three	2.33	0.99	42
rural	inside	south	F2000	three	2.56	1.03	40
rural	inside	south	F2000	three	2.38	1.00	42
rural	inside	south	F2000	three	2.46	0.96	39
rural	inside	south	F2000	three	2.17	0.93	43
rural	inside	south	F2000	three	2.26	0.83	37
rural	inside	south	F2000	three	2.47	0.85	34
rural	inside	south	F2000	three	2.21	0.93	42
rural	inside	south	F2000	three	2.37	0.76	32
rural	inside	south	F2000	three	2.19	0.74	34
rural	inside	south	F2000	three	2.36	0.80	34
rural	inside	south	F2000	three	2.39	0.81	34
rural	inside	south	F2000	three	2.07	0.70	34
rural	inside	south	F2000	three	2.06	0.68	33
rural	inside	south	F2000	four	2.19	0.69	32
rural	inside	south	F2000	four	2.06	0.72	35
rural	inside	south	F2000	four	1.93	0.69	36
rural	inside	south	F2000	four	1.98	0.68	34
rural	inside	south	F2000	four	1.88	0.64	34
rural	inside	south	F2000	four	1.93	0.61	32
rural	inside	south	F2000	four	2.12	0.63	30
rural	inside	south	F2000	four	1.89	0.61	32
rural	inside	south	F2000	four	1.88	0.63	34
rural	inside	south	F2000	four	1.86	0.61	33
rural	inside	south	F2000	four	1.96	0.65	33
rural	inside	south	F2000	four	1.93	0.60	31
rural	inside	south	F2000	four	1.89	0.63	33
rural	inside	south	F2000	four	2.09	0.58	28
rural	inside	south	F2000	four	2.05	0.65	32
rural	inside	south	F2000	four	1.89	0.55	29
rural	inside	south	F2000	four	1.90	0.80	42
rural	inside	south	F2000	four	2.32	0.73	31
rural	inside	south	F2000	four	2.26	0.76	34
rural	inside	south	F2000	four	2.24	0.76	34
rural	inside	south	F2000	full	1.62	1.15	71
rural	inside	south	F2000	full	1.54	1.17	76
rural	inside	south	F2000	full	1.61	1.02	63
rural	inside	south	F2000	full	1.45	1.03	71
rural	inside	south	F2000	full	1.53	1.09	71
rural	inside	south	F2000	full	1.41	1.12	79
rural	inside	south	F2000	full	1.43	1.11	78
rural	inside	south	F2000	full	1.39	1.08	78
rural	inside	south	F2000	full	1.50	1.18	79
rural	inside	south	F2000	full	1.40	1.05	75
rural	inside	south	F2000	full	2.19	1.83	84
rural	inside	south	F2000	full	1.56	1.19	76
rural	inside	south	F2000	full	1.80	1.09	61
rural	inside	south	F2000	full	1.46	1.00	68
rural	inside	south	F2000	full	1.70	1.10	65
rural	inside	south	F2000	full	1.45	1.01	70
rural	inside	south	F2000	full	1.50	1.17	78
rural	inside	south	F2000	full	1.81	1.10	61
rural	inside	south	F2000	full	1.51	1.10	73
rural	inside	south	F2000	full	1.55	1.12	72
rural	inside	south	S2001	zero	2.31	0.75	32
rural	inside	south	S2001	zero	2.62	0.77	29
rural	inside	south	S2001	zero	2.35	0.67	29
rural	inside	south	S2001	zero	2.44	0.63	26
rural	inside	south	S2001	zero	2.90	0.70	24
rural	inside	south	S2001	zero	2.35	0.68	29
rural	inside	south	S2001	zero	2.80	0.73	26
rural	inside	south	S2001	zero	2.94	0.81	28

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	S2001	zero	2.37	0.76	32
rural	inside	south	S2001	zero	2.43	0.87	36
rural	inside	south	S2001	zero	2.31	0.78	34
rural	inside	south	S2001	zero	2.72	0.77	28
rural	inside	south	S2001	zero	2.75	0.81	29
rural	inside	south	S2001	zero	2.46	0.73	30
rural	inside	south	S2001	zero	2.27	0.75	33
rural	inside	south	S2001	zero	2.63	0.80	30
rural	inside	south	S2001	zero	2.41	0.82	34
rural	inside	south	S2001	zero	2.25	0.87	39
rural	inside	south	S2001	zero	2.51	1.00	40
rural	inside	south	S2001	zero	2.70	1.09	40
rural	inside	south	S2001	three	3.11	1.11	36
rural	inside	south	S2001	three	1.83	1.56	85
rural	inside	south	S2001	three	2.73	1.11	41
rural	inside	south	S2001	three	2.74	1.06	39
rural	inside	south	S2001	three	2.43	1.00	41
rural	inside	south	S2001	three	2.40	1.00	42
rural	inside	south	S2001	three	2.56	1.09	43
rural	inside	south	S2001	three	2.77	1.16	42
rural	inside	south	S2001	three	2.68	1.17	44
rural	inside	south	S2001	three	2.79	1.16	42
rural	inside	south	S2001	three	2.39	1.01	42
rural	inside	south	S2001	three	2.55	0.93	36
rural	inside	south	S2001	three	3.35	0.97	29
rural	inside	south	S2001	three	2.25	1.13	50
rural	inside	south	S2001	three	2.46	0.94	38
rural	inside	south	S2001	three	2.81	0.93	33
rural	inside	south	S2001	three	2.25	0.94	42
rural	inside	south	S2001	three	2.45	0.96	39
rural	inside	south	S2001	three	2.59	0.94	36
rural	inside	south	S2001	three	2.11	0.82	39
rural	inside	south	S2001	four	2.37	0.85	36
rural	inside	south	S2001	four	2.62	0.99	38
rural	inside	south	S2001	four	2.35	0.87	37
rural	inside	south	S2001	four	2.31	0.87	38
rural	inside	south	S2001	four	2.32	0.83	36
rural	inside	south	S2001	four	2.52	0.80	32
rural	inside	south	S2001	four	2.39	0.85	36
rural	inside	south	S2001	four	2.21	0.78	35
rural	inside	south	S2001	four	2.34	0.83	35
rural	inside	south	S2001	four	2.11	0.81	38
rural	inside	south	S2001	four	2.16	0.80	37
rural	inside	south	S2001	four	2.29	0.78	34
rural	inside	south	S2001	four	2.33	0.82	35
rural	inside	south	S2001	four	2.40	0.72	30
rural	inside	south	S2001	four	2.40	0.77	32
rural	inside	south	S2001	four			
rural	inside	south	S2001	four	2.21	0.83	38
rural	inside	south	S2001	four	2.39	0.96	40
rural	inside	south	S2001	four	2.57	1.13	44
rural	inside	south	S2001	four	2.51	0.93	37
rural	inside	south	S2001	full	2.01	1.38	69
rural	inside	south	S2001	full	1.75	1.39	79
rural	inside	south	S2001	full	1.89	1.16	61
rural	inside	south	S2001	full	1.97	1.35	69
rural	inside	south	S2001	full	1.71	1.28	75
rural	inside	south	S2001	full	1.80	1.32	73
rural	inside	south	S2001	full	1.68	1.31	78
rural	inside	south	S2001	full	1.61	1.28	80
rural	inside	south	S2001	full	1.60	1.37	86
rural	inside	south	S2001	full	1.63	1.27	78

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	S2001	full	2.15	1.75	81
rural	inside	south	S2001	full	1.76	1.32	75
rural	inside	south	S2001	full	1.94	1.27	65
rural	inside	south	S2001	full	1.64	1.18	72
rural	inside	south	S2001	full	1.82	1.28	70
rural	inside	south	S2001	full	1.68	1.29	77
rural	inside	south	S2001	full	1.74	1.33	76
rural	inside	south	S2001	full	2.02	1.30	64
rural	inside	south	S2001	full	1.82	1.34	74
rural	inside	south	S2001	full	1.82	1.13	62
rural	inside	south	F2001	zero	0.93	0.87	94
rural	inside	south	F2001	zero	0.88	0.83	94
rural	inside	south	F2001	zero	0.87	0.80	92
rural	inside	south	F2001	zero	0.89	0.82	92
rural	inside	south	F2001	zero	0.90	0.83	92
rural	inside	south	F2001	zero	0.94	0.86	91
rural	inside	south	F2001	zero	0.97	0.91	94
rural	inside	south	F2001	zero	0.99	0.93	94
rural	inside	south	F2001	zero	0.96	0.89	93
rural	inside	south	F2001	zero	0.98	0.92	94
rural	inside	south	F2001	zero	0.89	0.81	91
rural	inside	south	F2001	zero	0.98	0.91	93
rural	inside	south	F2001	zero	0.98	0.91	93
rural	inside	south	F2001	zero	0.82	0.78	95
rural	inside	south	F2001	zero	0.82	0.77	94
rural	inside	south	F2001	zero	0.91	0.86	95
rural	inside	south	F2001	zero	0.90	0.84	93
rural	inside	south	F2001	zero	1.23	1.19	97
rural	inside	south	F2001	zero	1.00	0.94	94
rural	inside	south	F2001	zero	0.94	0.88	94
rural	inside	south	F2001	three	1.11	1.05	95
rural	inside	south	F2001	three	1.10	1.03	94
rural	inside	south	F2001	three	1.10	1.04	95
rural	inside	south	F2001	three	1.00	0.95	95
rural	inside	south	F2001	three	0.96	0.91	95
rural	inside	south	F2001	three	0.91	0.86	95
rural	inside	south	F2001	three	1.02	0.95	93
rural	inside	south	F2001	three	0.99	0.92	93
rural	inside	south	F2001	three	0.98	0.92	94
rural	inside	south	F2001	three	0.98	0.94	96
rural	inside	south	F2001	three	0.86	0.79	92
rural	inside	south	F2001	three	0.85	0.80	94
rural	inside	south	F2001	three	0.94	0.90	96
rural	inside	south	F2001	three	0.93	0.87	94
rural	inside	south	F2001	three	0.93	0.86	92
rural	inside	south	F2001	three	0.94	0.87	93
rural	inside	south	F2001	three	0.97	0.89	92
rural	inside	south	F2001	three	0.98	0.90	92
rural	inside	south	F2001	three	0.96	0.88	92
rural	inside	south	F2001	three	0.89	0.83	93
rural	inside	south	F2001	four	0.98	0.90	92
rural	inside	south	F2001	four	0.94	0.87	93
rural	inside	south	F2001	four	0.86	0.79	92
rural	inside	south	F2001	four	0.95	0.89	94
rural	inside	south	F2001	four	0.93	0.86	92
rural	inside	south	F2001	four	0.95	0.86	91
rural	inside	south	F2001	four	0.82	0.76	93
rural	inside	south	F2001	four	0.89	0.82	92
rural	inside	south	F2001	four	0.86	0.78	91
rural	inside	south	F2001	four	0.81	0.74	91
rural	inside	south	F2001	four	0.86	0.80	93
rural	inside	south	F2001	four	0.89	0.86	97

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	F2001	four	0.91	0.85	93
rural	inside	south	F2001	four	0.85	0.77	91
rural	inside	south	F2001	four	0.83	0.75	90
rural	inside	south	F2001	four	0.90	0.83	92
rural	inside	south	F2001	four	0.92	0.84	91
rural	inside	south	F2001	four	0.98	0.90	92
rural	inside	south	F2001	four	1.05	0.97	92
rural	inside	south	F2001	four	0.97	0.89	92
rural	inside	south	F2001	full	0.98	0.90	92
rural	inside	south	F2001	full	0.94	0.87	93
rural	inside	south	F2001	full	0.93	0.85	91
rural	inside	south	F2001	full	1.03	0.96	93
rural	inside	south	F2001	full	1.03	0.95	92
rural	inside	south	F2001	full	1.00	0.93	93
rural	inside	south	F2001	full	0.89	0.82	92
rural	inside	south	F2001	full	0.94	0.86	91
rural	inside	south	F2001	full	0.94	0.88	94
rural	inside	south	F2001	full	0.98	0.92	94
rural	inside	south	F2001	full	1.14	1.08	95
rural	inside	south	F2001	full	0.98	0.91	93
rural	inside	south	F2001	full	0.98	0.90	92
rural	inside	south	F2001	full	0.88	0.80	91
rural	inside	south	F2001	full	0.99	0.91	92
rural	inside	south	F2001	full	0.88	0.82	93
rural	inside	south	F2001	full	0.93	0.87	94
rural	inside	south	F2001	full	0.94	0.88	94
rural	inside	south	F2001	full	0.92	0.86	93
rural	inside	south	F2001	full	0.86	0.79	92
rural	inside	south	S2002	zero	3.34	0.71	21
rural	inside	south	S2002	zero	3.46	0.55	16
rural	inside	south	S2002	zero	3.37	0.57	17
rural	inside	south	S2002	zero	3.84	0.58	15
rural	inside	south	S2002	zero	3.95	0.56	14
rural	inside	south	S2002	zero	3.51	0.54	15
rural	inside	south	S2002	zero		0.58	
rural	inside	south	S2002	zero	3.31	0.57	17
rural	inside	south	S2002	zero	2.64	1.13	43
rural	inside	south	S2002	zero	3.13	0.68	22
rural	inside	south	S2002	zero	3.28	0.65	20
rural	inside	south	S2002	zero	2.80	0.94	34
rural	inside	south	S2002	zero	2.68	1.11	41
rural	inside	south	S2002	zero	2.65	0.76	29
rural	inside	south	S2002	zero	2.72	0.66	24
rural	inside	south	S2002	zero	3.60	0.62	17
rural	inside	south	S2002	zero	1.70	1.36	80
rural	inside	south	S2002	zero	3.12	0.76	24
rural	inside	south	S2002	zero	1.64	1.35	82
rural	inside	south	S2002	zero	1.69	1.34	79
rural	inside	south	S2002	three	1.97	1.32	67
rural	inside	south	S2002	three	1.56	1.38	88
rural	inside	south	S2002	three	1.66	1.39	84
rural	inside	south	S2002	three	2.25	1.20	53
rural	inside	south	S2002	three	2.01	1.30	65
rural	inside	south	S2002	three	1.62	1.43	88
rural	inside	south	S2002	three	1.71	1.30	76
rural	inside	south	S2002	three	1.74	1.37	79
rural	inside	south	S2002	three	2.55	1.13	44
rural	inside	south	S2002	three	3.24	0.89	27
rural	inside	south	S2002	three	2.89	0.90	31
rural	inside	south	S2002	three	3.31	0.84	25
rural	inside	south	S2002	three	2.85	0.97	34
rural	inside	south	S2002	three	2.94	1.11	38

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	S2002	three	3.27	0.85	26
rural	inside	south	S2002	three	3.35	0.74	22
rural	inside	south	S2002	three	3.65	0.78	21
rural	inside	south	S2002	three	3.38	0.79	23
rural	inside	south	S2002	three	3.17	0.78	25
rural	inside	south	S2002	three	3.08	0.70	23
rural	inside	south	S2002	four	2.32	1.17	50
rural	inside	south	S2002	four	2.68	0.80	30
rural	inside	south	S2002	four	2.61	0.71	27
rural	inside	south	S2002	four	2.97	0.74	25
rural	inside	south	S2002	four	2.87	0.62	22
rural	inside	south	S2002	four	2.69	1.02	38
rural	inside	south	S2002	four	2.66	0.88	33
rural	inside	south	S2002	four	2.77	0.63	23
rural	inside	south	S2002	four	2.82	0.69	24
rural	inside	south	S2002	four	2.88	0.66	23
rural	inside	south	S2002	four	2.09	1.27	61
rural	inside	south	S2002	four	2.47	0.90	36
rural	inside	south	S2002	four	3.10	0.63	20
rural	inside	south	S2002	four	3.46	0.52	15
rural	inside	south	S2002	four	3.20	0.57	18
rural	inside	south	S2002	four	2.48	1.02	41
rural	inside	south	S2002	four	3.08	0.66	21
rural	inside	south	S2002	four	2.60	1.40	54
rural	inside	south	S2002	four	2.94	1.02	35
rural	inside	south	S2002	four	3.10	0.89	29
rural	inside	south	S2002	full	2.23	1.52	68
rural	inside	south	S2002	full	1.87	1.42	76
rural	inside	south	S2002	full	1.94	1.23	63
rural	inside	south	S2002	full	1.80	1.32	73
rural	inside	south	S2002	full	1.85	1.28	69
rural	inside	south	S2002	full	1.92	1.35	70
rural	inside	south	S2002	full	1.98	1.49	75
rural	inside	south	S2002	full	1.55	1.30	84
rural	inside	south	S2002	full	1.70	1.35	79
rural	inside	south	S2002	full	1.84	1.28	70
rural	inside	south	S2002	full	1.98	1.57	79
rural	inside	south	S2002	full	1.58	1.27	80
rural	inside	south	S2002	full	2.11	1.48	70
rural	inside	south	S2002	full	1.62	1.11	69
rural	inside	south	S2002	full	2.10	1.49	71
rural	inside	south	S2002	full	1.66	1.28	77
rural	inside	south	S2002	full	1.85	1.39	75
rural	inside	south	S2002	full	1.81	1.30	72
rural	inside	south	S2002	full	2.03	1.44	71
rural	inside	south	S2002	full	1.57	1.21	77
rural	inside	south	F2002	zero	1.85	1.43	77
rural	inside	south	F2002	zero	3.46	2.47	71
rural	inside	south	F2002	zero	3.33	2.55	77
rural	inside	south	F2002	zero	1.80	1.20	67
rural	inside	south	F2002	zero	2.79	2.15	77
rural	inside	south	F2002	zero	1.96	1.51	77
rural	inside	south	F2002	zero	1.99	1.56	78
rural	inside	south	F2002	zero	3.31	0.54	16
rural	inside	south	F2002	zero	1.87	1.70	91
rural	inside	south	F2002	zero	3.90	2.99	77
rural	inside	south	F2002	zero	3.06	0.70	23
rural	inside	south	F2002	zero	0.84	0.79	94
rural	inside	south	F2002	zero	0.94	0.87	93
rural	inside	south	F2002	zero	0.90	0.82	91
rural	inside	south	F2002	zero	0.86	0.78	91
rural	inside	south	F2002	zero	0.79	0.73	92

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	F2002	zero	2.14	1.66	78
rural	inside	south	F2002	zero	2.04	0.81	40
rural	inside	south	F2002	zero	1.44	1.41	98
rural	inside	south	F2002	zero	1.59	1.35	85
rural	inside	south	F2002	three	2.45	1.04	42
rural	inside	south	F2002	three	1.73	1.49	86
rural	inside	south	F2002	three	1.48	1.39	94
rural	inside	south	F2002	three	2.09	1.16	56
rural	inside	south	F2002	three	1.72	1.34	78
rural	inside	south	F2002	three	1.79	1.20	67
rural	inside	south	F2002	three	1.67	1.25	75
rural	inside	south	F2002	three	1.71	1.30	76
rural	inside	south	F2002	three	1.76	1.50	85
rural	inside	south	F2002	three	3.10	0.94	30
rural	inside	south	F2002	three	3.24	0.95	29
rural	inside	south	F2002	three	2.90	0.83	29
rural	inside	south	F2002	three	2.47	0.87	35
rural	inside	south	F2002	three	2.48	0.94	38
rural	inside	south	F2002	three	3.26	0.83	25
rural	inside	south	F2002	three	2.85	0.81	28
rural	inside	south	F2002	three	2.69	0.78	29
rural	inside	south	F2002	three	3.11	0.77	25
rural	inside	south	F2002	three	2.96	0.72	24
rural	inside	south	F2002	three	3.30	0.65	20
rural	inside	south	F2002	four	2.78	0.77	28
rural	inside	south	F2002	four	2.41	0.77	32
rural	inside	south	F2002	four	2.75	0.76	28
rural	inside	south	F2002	four	2.65	0.49	18
rural	inside	south	F2002	four	2.31	0.66	29
rural	inside	south	F2002	four	1.72	1.14	66
rural	inside	south	F2002	four	2.15	0.81	38
rural	inside	south	F2002	four	1.82	1.20	66
rural	inside	south	F2002	four	2.07	1.54	74
rural	inside	south	F2002	four	1.73	1.34	77
rural	inside	south	F2002	four	2.80	0.76	27
rural	inside	south	F2002	four	2.21	1.14	52
rural	inside	south	F2002	four	2.32	1.75	75
rural	inside	south	F2002	four	1.69	1.38	82
rural	inside	south	F2002	four	2.20	1.65	75
rural	inside	south	F2002	four	1.75	1.41	81
rural	inside	south	F2002	four	0.92	0.86	93
rural	inside	south	F2002	four	0.94	0.87	93
rural	inside	south	F2002	four	1.00	0.93	93
rural	inside	south	F2002	four	2.74	0.98	36
rural	inside	south	F2002	full	1.92	1.50	78
rural	inside	south	F2002	full	1.92	1.43	74
rural	inside	south	F2002	full	1.72	1.40	81
rural	inside	south	F2002	full	1.67	1.18	71
rural	inside	south	F2002	full	1.65	1.34	81
rural	inside	south	F2002	full	1.80	1.43	79
rural	inside	south	F2002	full	1.86	1.47	79
rural	inside	south	F2002	full	1.75	1.32	75
rural	inside	south	F2002	full	1.82	1.38	76
rural	inside	south	F2002	full	1.67	1.39	83
rural	inside	south	F2002	full	1.83	1.54	84
rural	inside	south	F2002	full	1.49	1.26	85
rural	inside	south	F2002	full	1.70	1.37	81
rural	inside	south	F2002	full	1.66	1.29	78
rural	inside	south	F2002	full	2.10	1.37	65
rural	inside	south	F2002	full	1.78	1.37	77
rural	inside	south	F2002	full	2.13	1.53	72
rural	inside	south	F2002	full	1.77	1.38	78

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	F2002	full	1.91	1.57	82
rural	inside	south	F2002	full	1.93	1.42	74
rural	inside	south	S2003	zero	2.45	0.66	27
rural	inside	south	S2003	zero	2.85	0.66	23
rural	inside	south	S2003	zero	2.53	0.59	23
rural	inside	south	S2003	zero	2.73	0.56	21
rural	inside	south	S2003	zero	2.94	0.58	20
rural	inside	south	S2003	zero	2.87	0.59	21
rural	inside	south	S2003	zero	3.31	0.65	20
rural	inside	south	S2003	zero	2.95	0.65	22
rural	inside	south	S2003	zero	1.83	1.41	77
rural	inside	south	S2003	zero	2.00	1.37	69
rural	inside	south	S2003	zero	2.71	0.76	28
rural	inside	south	S2003	zero	2.74	0.70	26
rural	inside	south	S2003	zero	3.09	0.71	23
rural	inside	south	S2003	zero	2.50	0.56	22
rural	inside	south	S2003	zero	2.13	0.80	38
rural	inside	south	S2003	zero	2.63	0.68	26
rural	inside	south	S2003	zero	2.00	0.99	50
rural	inside	south	S2003	zero	2.02	0.77	38
rural	inside	south	S2003	zero	1.62	1.24	77
rural	inside	south	S2003	zero	1.80	1.13	63
rural	inside	south	S2003	three	2.58	0.97	38
rural	inside	south	S2003	three	1.46	1.26	86
rural	inside	south	S2003	three	1.61	1.24	77
rural	inside	south	S2003	three	1.91	1.01	53
rural	inside	south	S2003	three	1.81	1.18	65
rural	inside	south	S2003	three	1.66	1.09	66
rural	inside	south	S2003	three	1.92	1.07	56
rural	inside	south	S2003	three	1.59	1.23	77
rural	inside	south	S2003	three	2.53	0.98	39
rural	inside	south	S2003	three	2.64	0.93	35
rural	inside	south	S2003	three	2.49	0.90	36
rural	inside	south	S2003	three	2.91	0.85	29
rural	inside	south	S2003	three	2.88	0.96	33
rural	inside	south	S2003	three	2.72	0.98	36
rural	inside	south	S2003	three	2.93	0.84	29
rural	inside	south	S2003	three	3.02	0.79	26
rural	inside	south	S2003	three	3.21	0.88	27
rural	inside	south	S2003	three	3.07	0.84	27
rural	inside	south	S2003	three		0.84	
rural	inside	south	S2003	three	2.64	0.72	27
rural	inside	south	S2003	four	2.61	0.83	32
rural	inside	south	S2003	four	2.47	0.87	35
rural	inside	south	S2003	four	2.24	0.78	35
rural	inside	south	S2003	four	2.48	0.81	33
rural	inside	south	S2003	four	2.42	0.70	29
rural	inside	south	S2003	four	2.66	0.69	26
rural	inside	south	S2003	four	2.73	0.72	26
rural	inside	south	S2003	four	2.29	0.73	32
rural	inside	south	S2003	four	2.46	0.82	33
rural	inside	south	S2003	four	2.34	0.75	32
rural	inside	south	S2003	four	2.09	0.95	45
rural	inside	south	S2003	four	2.41	0.77	32
rural	inside	south	S2003	four	2.54	0.79	31
rural	inside	south	S2003	four	2.74	0.67	24
rural	inside	south	S2003	four	2.59	0.66	25
rural	inside	south	S2003	four	2.42	0.69	29
rural	inside	south	S2003	four	2.45	0.77	31
rural	inside	south	S2003	four	2.91	0.87	30
rural	inside	south	S2003	four	2.41	1.23	51
rural	inside	south	S2003	four	2.61	0.95	36

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	south	S2003	full	2.15	1.40	65
rural	inside	south	S2003	full	1.67	1.34	80
rural	inside	south	S2003	full	1.95	1.10	56
rural	inside	south	S2003	full	1.73	1.24	72
rural	inside	south	S2003	full	1.60	1.32	83
rural	inside	south	S2003	full	1.81	1.31	72
rural	inside	south	S2003	full	1.83	1.31	72
rural	inside	south	S2003	full	1.75	1.28	73
rural	inside	south	S2003	full	1.60	1.20	75
rural	inside	south	S2003	full	1.78	1.26	71
rural	inside	south	S2003	full	2.17	1.70	78
rural	inside	south	S2003	full	1.47	1.18	80
rural	inside	south	S2003	full	1.79	1.39	78
rural	inside	south	S2003	full	1.74	1.12	64
rural	inside	south	S2003	full	1.74	1.17	67
rural	inside	south	S2003	full	1.59	1.06	67
rural	inside	south	S2003	full	1.70	1.18	69
rural	inside	south	S2003	full	1.90	1.15	61
rural	inside	south	S2003	full	1.82	1.41	77
rural	inside	south	S2003	full	1.86	1.24	67
rural	inside	north	F1998	zero	2.73	2.10	77
rural	inside	north	F1998	zero	2.00	1.58	79
rural	inside	north	F1998	zero	1.40	1.13	81
rural	inside	north	F1998	zero	2.22	1.72	77
rural	inside	north	F1998	zero	1.95	1.53	78
rural	inside	north	F1998	zero	1.86	1.44	77
rural	inside	north	F1998	zero	1.46	1.18	81
rural	inside	north	F1998	zero	2.31	1.79	77
rural	inside	north	F1998	zero	1.66	1.32	80
rural	inside	north	F1998	zero	1.16	0.99	85
rural	inside	north	F1998	zero	2.27	1.76	78
rural	inside	north	F1998	zero	1.43	1.18	83
rural	inside	north	F1998	zero	1.73	1.39	80
rural	inside	north	F1998	zero	1.85	1.47	79
rural	inside	north	F1998	zero	1.47	1.20	82
rural	inside	north	F1998	zero	1.52	1.20	79
rural	inside	north	F1998	zero	1.24	1.04	84
rural	inside	north	F1998	zero	1.18	1.00	85
rural	inside	north	F1998	zero	1.21	1.04	86
rural	inside	north	F1998	zero	1.43	1.22	85
rural	inside	north	F1998	three	1.63	1.36	83
rural	inside	north	F1998	three	1.57	1.33	85
rural	inside	north	F1998	three	1.27	1.12	88
rural	inside	north	F1998	three	1.58	1.32	84
rural	inside	north	F1998	three	1.15	0.99	86
rural	inside	north	F1998	three	1.90	1.56	82
rural	inside	north	F1998	three	1.87	1.55	83
rural	inside	north	F1998	three	2.54	2.07	81
rural	inside	north	F1998	three	2.10	1.71	81
rural	inside	north	F1998	three	2.32	1.86	80
rural	inside	north	F1998	three	1.83	1.47	80
rural	inside	north	F1998	three	1.62	1.31	81
rural	inside	north	F1998	three	2.14	1.71	80
rural	inside	north	F1998	three	1.50	1.23	82
rural	inside	north	F1998	three	1.98	1.53	77
rural	inside	north	F1998	three	2.11	1.65	78
rural	inside	north	F1998	three	1.83	1.47	80
rural	inside	north	F1998	three	2.79	2.13	76
rural	inside	north	F1998	three	2.59	2.02	78
rural	inside	north	F1998	three	2.84	2.17	76
rural	inside	north	F1998	four	1.89	1.47	78
rural	inside	north	F1998	four	1.73	1.38	80

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	north	F1998	four	1.65	1.29	78
rural	inside	north	F1998	four	1.45	1.15	79
rural	inside	north	F1998	four	2.35	1.75	74
rural	inside	north	F1998	four	1.80	1.36	76
rural	inside	north	F1998	four	1.75	1.35	77
rural	inside	north	F1998	four	1.90	1.48	78
rural	inside	north	F1998	four	0.77	0.70	91
rural	inside	north	F1998	four	2.07	1.58	76
rural	inside	north	F1998	four	2.47	1.87	76
rural	inside	north	F1998	four	2.09	1.60	77
rural	inside	north	F1998	four	2.15	1.67	78
rural	inside	north	F1998	four	1.71	1.37	80
rural	inside	north	F1998	four	1.70	1.32	78
rural	inside	north	F1998	four	1.95	1.48	76
rural	inside	north	F1998	four	2.08	1.57	75
rural	inside	north	F1998	four	1.68	1.33	79
rural	inside	north	F1998	four	1.86	1.46	78
rural	inside	north	F1998	four	2.04	1.60	78
rural	inside	north	F1998	full	2.62	1.99	76
rural	inside	north	F1998	full	1.56	1.23	79
rural	inside	north	F1998	full	1.22	1.01	83
rural	inside	north	F1998	full	1.37	1.09	80
rural	inside	north	F1998	full	1.34	1.08	81
rural	inside	north	F1998	full	1.31	1.06	81
rural	inside	north	F1998	full	1.05	0.90	86
rural	inside	north	F1998	full	1.00	0.84	84
rural	inside	north	F1998	full	1.01	0.86	85
rural	inside	north	F1998	full	1.10	0.92	84
rural	inside	north	F1998	full	1.17	0.97	83
rural	inside	north	F1998	full	1.18	0.97	82
rural	inside	north	S1999	zero	1.51	1.18	78
rural	inside	north	S1999	zero	1.14	0.95	83
rural	inside	north	S1999	zero	0.94	0.81	86
rural	inside	north	S1999	zero	1.20	0.98	82
rural	inside	north	S1999	zero	1.10	0.94	85
rural	inside	north	S1999	zero	0.94	0.82	87
rural	inside	north	S1999	zero	1.30	1.03	79
rural	inside	north	S1999	zero	1.11	0.97	87
rural	inside	north	S1999	zero	1.14	0.98	86
rural	inside	north	S1999	zero	1.12	0.97	87
rural	inside	north	S1999	zero	1.21	1.00	83
rural	inside	north	S1999	zero	1.35	1.11	82
rural	inside	north	S1999	zero	1.70	1.34	79
rural	inside	north	S1999	zero	1.33	1.10	83
rural	inside	north	S1999	zero	1.25	1.01	81
rural	inside	north	S1999	zero	1.17	0.98	84
rural	inside	north	S1999	zero	1.30	1.05	81
rural	inside	north	S1999	zero	1.28	1.04	81
rural	inside	north	S1999	zero	1.01	0.88	87
rural	inside	north	S1999	zero	1.25	1.04	83
rural	inside	north	S1999	three	1.63	1.33	82
rural	inside	north	S1999	three	1.33	1.10	83
rural	inside	north	S1999	three	1.35	1.13	84
rural	inside	north	S1999	three	1.26	1.04	83
rural	inside	north	S1999	three	1.52	1.24	82
rural	inside	north	S1999	three	1.48	1.21	82
rural	inside	north	S1999	three	2.03	1.63	80
rural	inside	north	S1999	three	1.82	1.48	81
rural	inside	north	S1999	three	1.39	1.17	84
rural	inside	north	S1999	three	1.68	1.35	80
rural	inside	north	S1999	three	1.52	1.24	82
rural	inside	north	S1999	three	1.25	1.05	84

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	north	S1999	three	1.24	1.05	85
rural	inside	north	S1999	three	1.32	1.09	83
rural	inside	north	S1999	three	1.24	1.03	83
rural	inside	north	S1999	three	1.33	1.08	81
rural	inside	north	S1999	three	1.37	1.12	82
rural	inside	north	S1999	three	1.08	0.93	86
rural	inside	north	S1999	three	1.34	1.11	83
rural	inside	north	S1999	three	1.53	1.23	80
rural	inside	north	S1999	four	1.60	1.26	79
rural	inside	north	S1999	four	1.29	1.09	84
rural	inside	north	S1999	four	1.29	1.06	82
rural	inside	north	S1999	four	1.40	1.14	81
rural	inside	north	S1999	four	1.73	1.36	79
rural	inside	north	S1999	four	1.88	0.65	35
rural	inside	north	S1999	four	1.80	1.35	75
rural	inside	north	S1999	four	1.09	0.93	85
rural	inside	north	S1999	four	1.61	1.24	77
rural	inside	north	S1999	four	1.23	1.02	83
rural	inside	north	S1999	four	1.20	0.99	83
rural	inside	north	S1999	four	1.62	1.27	78
rural	inside	north	S1999	four	1.56	1.27	81
rural	inside	north	S1999	four	1.23	1.03	84
rural	inside	north	S1999	four	1.47	1.14	78
rural	inside	north	S1999	four	1.23	1.02	83
rural	inside	north	S1999	four	1.40	1.15	82
rural	inside	north	S1999	four	1.49	1.22	82
rural	inside	north	S1999	four	1.27	1.08	85
rural	inside	north	S1999	four	1.63	1.29	79
rural	inside	north	S1999	full	1.19	1.02	86
rural	inside	north	S1999	full	1.11	1.06	95
rural	inside	north	S1999	full	1.24	1.03	83
rural	inside	north	S1999	full	1.27	1.06	83
rural	inside	north	S1999	full	1.21	1.06	88
rural	inside	north	S1999	full	1.12	0.98	88
rural	inside	north	S1999	full	1.25	1.01	81
rural	inside	north	S1999	full	1.18	0.99	84
rural	inside	north	S1999	full	1.13	0.95	84
rural	inside	north	S1999	full	1.33	1.07	80
rural	inside	north	S1999	full	0.93	0.88	95
rural	inside	north	S1999	full	1.27	1.07	84
rural	inside	north	F1999	zero	1.42	1.16	82
rural	inside	north	F1999	zero	1.06	0.91	86
rural	inside	north	F1999	zero	1.23	1.03	84
rural	inside	north	F1999	zero	1.09	0.94	86
rural	inside	north	F1999	zero	1.18	1.04	88
rural	inside	north	F1999	zero	0.98	0.87	89
rural	inside	north	F1999	zero	1.04	0.94	90
rural	inside	north	F1999	zero	1.15	1.04	90
rural	inside	north	F1999	zero	1.06	0.96	91
rural	inside	north	F1999	zero	1.00	0.91	91
rural	inside	north	F1999	zero	1.03	0.93	90
rural	inside	north	F1999	zero	1.13	1.02	90
rural	inside	north	F1999	zero	1.25	1.07	86
rural	inside	north	F1999	zero	1.04	0.94	90
rural	inside	north	F1999	zero	1.04	0.91	88
rural	inside	north	F1999	zero	0.98	0.87	89
rural	inside	north	F1999	zero	1.07	0.93	87
rural	inside	north	F1999	zero	1.06	0.93	88
rural	inside	north	F1999	zero	1.26	1.09	87
rural	inside	north	F1999	zero	1.20	1.06	88
rural	inside	north	F1999	three	1.16	1.04	90
rural	inside	north	F1999	three	1.15	1.03	90

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	north	F1999	three	1.30	1.12	86
rural	inside	north	F1999	three	1.22	1.08	89
rural	inside	north	F1999	three	0.98	0.89	91
rural	inside	north	F1999	three	1.03	0.93	90
rural	inside	north	F1999	three	1.30	1.12	86
rural	inside	north	F1999	three	1.13	1.01	89
rural	inside	north	F1999	three	1.18	1.04	88
rural	inside	north	F1999	three	1.21	1.09	90
rural	inside	north	F1999	three	1.03	0.94	91
rural	inside	north	F1999	three	0.94	0.86	91
rural	inside	north	F1999	three	1.06	0.96	91
rural	inside	north	F1999	three	1.05	0.92	88
rural	inside	north	F1999	three	1.21	1.01	83
rural	inside	north	F1999	three	0.98	0.89	91
rural	inside	north	F1999	three	1.86	1.44	77
rural	inside	north	F1999	three	1.39	1.15	83
rural	inside	north	F1999	three	1.78	1.40	79
rural	inside	north	F1999	three	1.61	1.29	80
rural	inside	north	F1999	four	1.96	1.48	76
rural	inside	north	F1999	four	1.76	1.33	76
rural	inside	north	F1999	four	1.77	1.32	75
rural	inside	north	F1999	four	1.47	1.16	79
rural	inside	north	F1999	four	1.57	1.23	78
rural	inside	north	F1999	four	1.59	1.23	77
rural	inside	north	F1999	four	1.57	1.21	77
rural	inside	north	F1999	four	1.31	1.08	82
rural	inside	north	F1999	four	1.12	0.97	87
rural	inside	north	F1999	four	1.34	1.06	79
rural	inside	north	F1999	four	1.46	1.12	77
rural	inside	north	F1999	four	1.59	1.19	75
rural	inside	north	F1999	four	1.84	1.42	77
rural	inside	north	F1999	four	1.16	0.96	83
rural	inside	north	F1999	four	1.28	1.02	80
rural	inside	north	F1999	four	1.67	1.26	75
rural	inside	north	F1999	four	1.60	1.27	79
rural	inside	north	F1999	four	1.96	1.49	76
rural	inside	north	F1999	four	1.62	1.31	81
rural	inside	north	F1999	four	1.55	1.22	79
rural	inside	north	F1999	full	1.30	1.08	83
rural	inside	north	F1999	full	1.20	0.99	83
rural	inside	north	F1999	full	1.08	0.91	84
rural	inside	north	F1999	full	1.37	1.10	80
rural	inside	north	F1999	full	1.36	1.10	81
rural	inside	north	F1999	full	1.51	1.17	77
rural	inside	north	F1999	full	1.47	1.11	76
rural	inside	north	F1999	full	1.51	1.17	77
rural	inside	north	F1999	full	1.32	1.08	82
rural	inside	north	F1999	full	1.33	1.08	81
rural	inside	north	F1999	full	1.23	1.04	85
rural	inside	north	F1999	full	1.25	1.07	86
rural	inside	north	F1999	full	1.30	1.10	85
rural	inside	north	F1999	full	1.07	0.91	85
rural	inside	north	F1999	full	1.32	1.09	83
rural	inside	north	F1999	full	1.17	1.00	85
rural	inside	north	F1999	full	1.45	1.13	78
rural	inside	north	F1999	full	1.11	0.95	86
rural	inside	north	F1999	full	1.34	1.08	81
rural	inside	north	F1999	full	1.15	0.98	85
rural	inside	north	S2000	zero	2.08	0.74	36
rural	inside	north	S2000	zero	1.81	0.80	44
rural	inside	north	S2000	zero	1.90	0.66	35
rural	inside	north	S2000	zero	1.96	0.69	35

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	north	S2000	zero	1.94	0.70	36
rural	inside	north	S2000	zero	2.12	0.67	32
rural	inside	north	S2000	zero	1.49	1.16	78
rural	inside	north	S2000	zero	1.92	0.86	45
rural	inside	north	S2000	zero	1.98	0.68	34
rural	inside	north	S2000	zero	1.60	0.90	56
rural	inside	north	S2000	zero	1.23	1.15	93
rural	inside	north	S2000	zero	2.01	0.92	46
rural	inside	north	S2000	zero	2.00	0.77	39
rural	inside	north	S2000	zero	1.86	0.76	41
rural	inside	north	S2000	zero	1.93	0.80	41
rural	inside	north	S2000	zero	1.09	1.04	95
rural	inside	north	S2000	zero	1.48	1.17	79
rural	inside	north	S2000	zero	1.35	1.11	82
rural	inside	north	S2000	zero	1.47	1.21	82
rural	inside	north	S2000	zero	1.52	1.30	86
rural	inside	north	S2000	three	1.72	1.41	82
rural	inside	north	S2000	three	1.71	1.19	70
rural	inside	north	S2000	three	1.72	1.25	73
rural	inside	north	S2000	three	1.41	1.27	90
rural	inside	north	S2000	three	1.34	1.21	90
rural	inside	north	S2000	three	1.26	1.20	95
rural	inside	north	S2000	three	2.03	1.09	54
rural	inside	north	S2000	three	1.57	1.39	89
rural	inside	north	S2000	three	2.29	1.05	46
rural	inside	north	S2000	three	1.48	1.28	86
rural	inside	north	S2000	three	2.04	0.88	43
rural	inside	north	S2000	three	1.66	0.89	54
rural	inside	north	S2000	three	1.47	1.30	88
rural	inside	north	S2000	three	2.75	0.88	32
rural	inside	north	S2000	three	1.32	1.22	92
rural	inside	north	S2000	three	2.64	0.75	28
rural	inside	north	S2000	three	1.96	0.77	39
rural	inside	north	S2000	three	2.07	0.77	37
rural	inside	north	S2000	three	1.77	1.08	61
rural	inside	north	S2000	three	1.96	0.79	40
rural	inside	north	S2000	four	1.74	1.06	61
rural	inside	north	S2000	four	1.41	1.18	84
rural	inside	north	S2000	four	1.72	0.85	49
rural	inside	north	S2000	four	1.64	0.94	57
rural	inside	north	S2000	four	1.40	1.20	86
rural	inside	north	S2000	four	2.12	0.75	35
rural	inside	north	S2000	four	1.93	0.76	39
rural	inside	north	S2000	four	1.97	0.75	38
rural	inside	north	S2000	four	1.76	0.89	51
rural	inside	north	S2000	four	1.76	0.72	41
rural	inside	north	S2000	four	1.54	0.86	56
rural	inside	north	S2000	four	1.90	0.73	38
rural	inside	north	S2000	four	1.80	0.78	43
rural	inside	north	S2000	four	1.58	0.71	45
rural	inside	north	S2000	four	1.28	1.12	88
rural	inside	north	S2000	four	1.36	1.13	83
rural	inside	north	S2000	four	1.59	0.90	57
rural	inside	north	S2000	four	2.14	0.75	35
rural	inside	north	S2000	four	2.07	0.85	41
rural	inside	north	S2000	four	1.81	0.82	45
rural	inside	north	S2000	full	1.25	1.19	95
rural	inside	north	S2000	full	1.35	1.08	80
rural	inside	north	S2000	full	1.49	1.03	69
rural	inside	north	S2000	full	1.29	1.11	86
rural	inside	north	S2000	full	1.47	1.08	73
rural	inside	north	S2000	full	1.38	1.06	77

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	north	S2000	full	0.94	0.93	99
rural	inside	north	S2000	full	1.27	1.06	83
rural	inside	north	S2000	full	1.49	1.13	76
rural	inside	north	S2000	full	1.44	1.09	76
rural	inside	north	S2000	full	1.34	1.18	88
rural	inside	north	S2000	full	1.27	1.21	95
rural	inside	north	S2000	full	1.35	1.14	84
rural	inside	north	S2000	full	1.05	0.99	94
rural	inside	north	S2000	full	1.62	1.12	69
rural	inside	north	S2000	full	1.13	1.05	93
rural	inside	north	S2000	full	1.07	1.04	97
rural	inside	north	S2000	full	1.35	1.17	87
rural	inside	north	S2000	full	1.35	1.18	87
rural	inside	north	S2000	full	1.12	1.09	97
rural	inside	north	F2000	zero	2.66	0.66	25
rural	inside	north	F2000	zero	2.40	0.62	26
rural	inside	north	F2000	zero	2.38	0.61	26
rural	inside	north	F2000	zero	2.49	0.57	23
rural	inside	north	F2000	zero	2.94	0.61	21
rural	inside	north	F2000	zero	2.76	0.57	21
rural	inside	north	F2000	zero	2.37	0.59	25
rural	inside	north	F2000	zero	3.02	0.59	20
rural	inside	north	F2000	zero	3.02	0.60	20
rural	inside	north	F2000	zero	3.12	0.60	19
rural	inside	north	F2000	zero	1.66	1.09	66
rural	inside	north	F2000	zero	3.24	0.63	19
rural	inside	north	F2000	zero	2.93	0.55	19
rural	inside	north	F2000	zero	2.65	0.56	21
rural	inside	north	F2000	zero	2.96	0.62	21
rural	inside	north	F2000	zero	2.58	0.62	24
rural	inside	north	F2000	zero	2.43	0.72	30
rural	inside	north	F2000	zero	2.34	0.82	35
rural	inside	north	F2000	zero	2.55	0.99	39
rural	inside	north	F2000	zero	3.24	0.98	30
rural	inside	north	F2000	three	2.93	0.98	33
rural	inside	north	F2000	three	3.03	0.94	31
rural	inside	north	F2000	three	3.19	0.98	31
rural	inside	north	F2000	three	2.02	1.18	58
rural	inside	north	F2000	three	2.83	0.86	30
rural	inside	north	F2000	three	2.53	0.91	36
rural	inside	north	F2000	three	3.01	1.00	33
rural	inside	north	F2000	three	2.84	0.99	35
rural	inside	north	F2000	three	3.13	0.99	32
rural	inside	north	F2000	three	2.64	0.98	37
rural	inside	north	F2000	three	2.59	0.90	35
rural	inside	north	F2000	three	2.95	0.78	26
rural	inside	north	F2000	three	2.31	0.78	34
rural	inside	north	F2000	three	2.63	0.69	26
rural	inside	north	F2000	three	2.51	0.68	27
rural	inside	north	F2000	three	2.92	0.64	22
rural	inside	north	F2000	three	2.90	0.65	22
rural	inside	north	F2000	three	3.13	0.64	20
rural	inside	north	F2000	three	2.49	0.60	24
rural	inside	north	F2000	three	2.66	0.60	23
rural	inside	north	F2000	four	2.12	0.79	37
rural	inside	north	F2000	four	2.22	0.63	28
rural	inside	north	F2000	four	2.28	0.64	28
rural	inside	north	F2000	four	1.84	0.66	36
rural	inside	north	F2000	four	2.27	0.56	25
rural	inside	north	F2000	four	2.29	0.53	23
rural	inside	north	F2000	four	2.35	0.54	23
rural	inside	north	F2000	four	2.39	0.60	25

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	north	F2000	four	2.32	0.59	25
rural	inside	north	F2000	four	2.45	0.54	22
rural	inside	north	F2000	four	2.67	0.56	21
rural	inside	north	F2000	four	2.73	0.53	19
rural	inside	north	F2000	four	2.46	0.67	27
rural	inside	north	F2000	four	2.23	0.53	24
rural	inside	north	F2000	four	1.71	1.00	58
rural	inside	north	F2000	four	1.98	0.61	31
rural	inside	north	F2000	four	2.31	0.61	26
rural	inside	north	F2000	four	2.78	0.59	21
rural	inside	north	F2000	four	2.32	0.68	29
rural	inside	north	F2000	four	2.62	0.65	25
rural	inside	north	F2000	full	2.03	1.12	55
rural	inside	north	F2000	full	1.67	1.01	60
rural	inside	north	F2000	full	1.81	1.04	57
rural	inside	north	F2000	full	1.70	1.01	59
rural	inside	north	F2000	full	2.04	1.00	49
rural	inside	north	F2000	full	1.62	1.01	62
rural	inside	north	F2000	full	1.45	1.10	76
rural	inside	north	F2000	full	1.57	0.98	62
rural	inside	north	F2000	full	1.82	1.20	66
rural	inside	north	F2000	full	1.76	1.04	59
rural	inside	north	F2000	full	2.42	1.56	64
rural	inside	north	F2000	full	1.86	1.26	68
rural	inside	north	F2000	full	1.97	1.32	67
rural	inside	north	F2000	full	1.49	1.15	77
rural	inside	north	F2000	full	1.95	1.23	63
rural	inside	north	F2000	full	1.45	1.13	78
rural	inside	north	F2000	full	1.66	1.10	66
rural	inside	north	F2000	full	1.63	1.14	70
rural	inside	north	F2000	full	1.84	1.38	75
rural	inside	north	F2000	full	1.80	0.96	53
rural	inside	north	S2001	zero	3.28	0.75	23
rural	inside	north	S2001	zero	2.02	1.39	69
rural	inside	north	S2001	zero	2.93	0.68	23
rural	inside	north	S2001	zero	1.69	1.53	91
rural	inside	north	S2001	zero	2.34	1.19	51
rural	inside	north	S2001	zero	3.33	2.48	74
rural	inside	north	S2001	zero	3.79	2.80	74
rural	inside	north	S2001	zero	3.29	0.70	21
rural	inside	north	S2001	zero	3.27	0.71	22
rural	inside	north	S2001	zero	3.24	0.69	21
rural	inside	north	S2001	zero	1.83	1.54	84
rural	inside	north	S2001	zero	2.12	1.67	79
rural	inside	north	S2001	zero	3.15	0.71	23
rural	inside	north	S2001	zero	1.84	1.41	77
rural	inside	north	S2001	zero	2.16	1.04	48
rural	inside	north	S2001	zero	2.85	0.73	26
rural	inside	north	S2001	zero		0.83	
rural	inside	north	S2001	zero	2.82	0.96	34
rural	inside	north	S2001	zero	3.41	1.03	30
rural	inside	north	S2001	zero	3.36	1.11	33
rural	inside	north	S2001	three	2.78	1.17	42
rural	inside	north	S2001	three	2.92	1.13	39
rural	inside	north	S2001	three	2.81	1.10	39
rural	inside	north	S2001	three	2.65	1.14	43
rural	inside	north	S2001	three	3.52	1.15	33
rural	inside	north	S2001	three	2.41	1.00	41
rural	inside	north	S2001	three			
rural	inside	north	S2001	three	2.85	1.11	39
rural	inside	north	S2001	three	2.78	1.08	39
rural	inside	north	S2001	three	2.64	1.08	41

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	north	S2001	three	1.79	1.39	78
rural	inside	north	S2001	three	2.62	0.88	34
rural	inside	north	S2001	three	2.51	0.98	39
rural	inside	north	S2001	three	2.88	0.85	30
rural	inside	north	S2001	three	2.63	0.79	30
rural	inside	north	S2001	three	2.83	0.78	28
rural	inside	north	S2001	three	2.60	0.80	31
rural	inside	north	S2001	three	2.48	0.82	33
rural	inside	north	S2001	three	2.39	0.85	36
rural	inside	north	S2001	three	2.97	0.86	29
rural	inside	north	S2001	four	2.66	0.88	33
rural	inside	north	S2001	four	2.32	0.93	40
rural	inside	north	S2001	four	2.65	0.84	32
rural	inside	north	S2001	four	1.92	1.27	66
rural	inside	north	S2001	four	2.22	0.85	38
rural	inside	north	S2001	four	1.87	1.44	77
rural	inside	north	S2001	four	2.63	0.73	28
rural	inside	north	S2001	four	2.42	0.75	31
rural	inside	north	S2001	four	2.11	0.73	35
rural	inside	north	S2001	four	2.67	0.70	26
rural	inside	north	S2001	four	2.28	0.71	31
rural	inside	north	S2001	four	2.67	0.69	26
rural	inside	north	S2001	four	2.69	0.89	33
rural	inside	north	S2001	four	2.40	0.86	36
rural	inside	north	S2001	four	2.32	0.78	34
rural	inside	north	S2001	four	2.31	0.80	35
rural	inside	north	S2001	four	2.22	0.78	35
rural	inside	north	S2001	four	2.55	0.82	32
rural	inside	north	S2001	four	2.61	1.05	40
rural	inside	north	S2001	four	3.09	0.86	28
rural	inside	north	S2001	full	2.30	1.15	50
rural	inside	north	S2001	full			
rural	inside	north	S2001	full	2.07	1.26	61
rural	inside	north	S2001	full	2.02	1.29	64
rural	inside	north	S2001	full	2.15	1.19	55
rural	inside	north	S2001	full	1.86	1.24	67
rural	inside	north	S2001	full	1.62	1.33	82
rural	inside	north	S2001	full	1.83	1.23	67
rural	inside	north	S2001	full	1.98	1.24	63
rural	inside	north	S2001	full	1.87	1.15	61
rural	inside	north	S2001	full	1.94	1.56	80
rural	inside	north	S2001	full			
rural	inside	north	S2001	full	2.04	1.27	62
rural	inside	north	S2001	full	1.53	1.17	76
rural	inside	north	S2001	full	1.80	1.25	69
rural	inside	north	S2001	full	1.55	1.30	84
rural	inside	north	S2001	full	1.77	1.30	73
rural	inside	north	S2001	full	1.91	1.42	74
rural	inside	north	S2001	full	2.20	1.34	61
rural	inside	north	S2001	full	1.71	1.17	68
rural	inside	north	F2001	zero	2.03	1.49	73
rural	inside	north	F2001	zero	2.21	1.40	63
rural	inside	north	F2001	zero	3.28	0.80	24
rural	inside	north	F2001	zero	2.24	1.41	63
rural	inside	north	F2001	zero	3.79	0.45	12
rural	inside	north	F2001	zero	3.88	0.68	18
rural	inside	north	F2001	zero	2.21	1.50	68
rural	inside	north	F2001	zero	4.38	0.64	15
rural	inside	north	F2001	zero	2.52	1.41	56
rural	inside	north	F2001	zero	4.53	0.71	16
rural	inside	north	F2001	zero	1.92	1.52	79
rural	inside	north	F2001	zero	2.70	1.25	46

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	north	F2001	zero	2.43	1.29	53
rural	inside	north	F2001	zero	2.04	1.24	61
rural	inside	north	F2001	zero	2.01	1.17	58
rural	inside	north	F2001	zero	2.22	1.03	46
rural	inside	north	F2001	zero	3.11	1.00	32
rural	inside	north	F2001	zero	2.35	1.21	51
rural	inside	north	F2001	zero	3.78	0.93	25
rural	inside	north	F2001	zero	1.70	1.46	86
rural	inside	north	F2001	three	1.75	1.44	82
rural	inside	north	F2001	three	2.46	1.23	50
rural	inside	north	F2001	three	1.69	1.56	92
rural	inside	north	F2001	three	1.60	1.38	86
rural	inside	north	F2001	three	1.81	1.24	69
rural	inside	north	F2001	three	1.48	1.30	88
rural	inside	north	F2001	three	1.56	1.36	87
rural	inside	north	F2001	three	1.63	1.40	86
rural	inside	north	F2001	three	1.85	1.31	71
rural	inside	north	F2001	three	1.73	1.25	72
rural	inside	north	F2001	three	2.06	1.23	60
rural	inside	north	F2001	three	1.67	1.39	83
rural	inside	north	F2001	three	1.88	1.54	82
rural	inside	north	F2001	three	2.03	1.46	72
rural	inside	north	F2001	three	1.95	1.36	70
rural	inside	north	F2001	three	2.15	1.15	53
rural	inside	north	F2001	three	2.05	1.37	67
rural	inside	north	F2001	three	2.21	1.29	58
rural	inside	north	F2001	three	1.74	1.37	79
rural	inside	north	F2001	three	1.73	1.39	80
rural	inside	north	F2001	four	2.06	1.24	60
rural	inside	north	F2001	four	1.77	1.34	76
rural	inside	north	F2001	four	2.35	1.05	45
rural	inside	north	F2001	four	1.56	1.36	87
rural	inside	north	F2001	four	1.85	1.36	74
rural	inside	north	F2001	four	1.66	1.37	83
rural	inside	north	F2001	four	1.66	1.38	83
rural	inside	north	F2001	four	2.05	1.16	57
rural	inside	north	F2001	four	1.55	1.31	85
rural	inside	north	F2001	four	1.65	1.22	74
rural	inside	north	F2001	four	1.67	1.39	83
rural	inside	north	F2001	four	1.68	1.28	76
rural	inside	north	F2001	four	1.97	1.46	74
rural	inside	north	F2001	four	1.53	1.22	80
rural	inside	north	F2001	four	1.46	1.22	84
rural	inside	north	F2001	four	1.44	1.20	83
rural	inside	north	F2001	four	1.61	1.41	88
rural	inside	north	F2001	four	1.89	1.52	80
rural	inside	north	F2001	four	1.75	1.36	78
rural	inside	north	F2001	four	3.17	1.03	32
rural	inside	north	F2001	full	1.58	1.36	86
rural	inside	north	F2001	full	1.29	1.13	88
rural	inside	north	F2001	full	1.35	1.14	84
rural	inside	north	F2001	full	1.40	1.16	83
rural	inside	north	F2001	full	1.37	1.18	86
rural	inside	north	F2001	full	1.47	1.22	83
rural	inside	north	F2001	full	1.27	1.13	89
rural	inside	north	F2001	full	1.32	1.08	82
rural	inside	north	F2001	full	1.71	1.24	73
rural	inside	north	F2001	full	1.52	1.18	78
rural	inside	north	F2001	full	1.45	1.25	86
rural	inside	north	F2001	full	1.45	1.24	86
rural	inside	north	F2001	full	1.70	1.38	81
rural	inside	north	F2001	full	1.24	1.04	84

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	north	F2001	full	1.61	1.32	82
rural	inside	north	F2001	full	1.24	1.08	87
rural	inside	north	F2001	full	1.46	1.17	80
rural	inside	north	F2001	full	1.42	1.17	82
rural	inside	north	F2001	full	1.39	1.18	85
rural	inside	north	F2001	full	1.22	1.08	89
rural	inside	north	S2002	zero	2.43	1.20	49
rural	inside	north	S2002	zero	2.66	1.07	40
rural	inside	north	S2002	zero	2.20	1.16	53
rural	inside	north	S2002	zero	2.96	0.64	22
rural	inside	north	S2002	zero	3.43	0.70	20
rural	inside	north	S2002	zero	3.29	0.53	16
rural	inside	north	S2002	zero	2.10	1.62	77
rural	inside	north	S2002	zero	2.02	1.60	79
rural	inside	north	S2002	zero	3.53	0.61	17
rural	inside	north	S2002	zero	3.26	0.63	19
rural	inside	north	S2002	zero	1.75	1.52	87
rural	inside	north	S2002	zero	3.64	0.71	20
rural	inside	north	S2002	zero	3.29	0.57	17
rural	inside	north	S2002	zero	1.85	1.47	79
rural	inside	north	S2002	zero	2.79	0.88	32
rural	inside	north	S2002	zero	2.62	0.71	27
rural	inside	north	S2002	zero	1.97	1.42	72
rural	inside	north	S2002	zero	2.93	0.85	29
rural	inside	north	S2002	zero	2.05	1.35	66
rural	inside	north	S2002	zero	3.29	1.01	31
rural	inside	north	S2002	three	2.00	1.27	64
rural	inside	north	S2002	three	1.79	1.35	75
rural	inside	north	S2002	three	1.87	1.27	68
rural	inside	north	S2002	three	1.74	1.48	85
rural	inside	north	S2002	three	1.88	1.49	79
rural	inside	north	S2002	three	1.73	1.23	71
rural	inside	north	S2002	three	1.56	1.30	83
rural	inside	north	S2002	three	1.71	1.67	98
rural	inside	north	S2002	three	3.10	1.03	33
rural	inside	north	S2002	three	2.17	1.16	53
rural	inside	north	S2002	three	1.91	1.31	69
rural	inside	north	S2002	three	1.76	1.55	88
rural	inside	north	S2002	three	1.89	1.48	78
rural	inside	north	S2002	three	1.88	1.56	83
rural	inside	north	S2002	three	1.96	1.48	76
rural	inside	north	S2002	three	2.46	1.03	42
rural	inside	north	S2002	three	3.15	0.72	23
rural	inside	north	S2002	three	3.04	0.74	24
rural	inside	north	S2002	three	2.77	0.75	27
rural	inside	north	S2002	three	2.83	0.71	25
rural	inside	north	S2002	four	2.29	1.02	45
rural	inside	north	S2002	four	1.96	1.14	58
rural	inside	north	S2002	four	2.34	0.94	40
rural	inside	north	S2002	four	1.61	1.44	89
rural	inside	north	S2002	four	2.55	0.79	31
rural	inside	north	S2002	four	1.80	1.45	81
rural	inside	north	S2002	four	2.84	0.79	28
rural	inside	north	S2002	four	2.66	0.81	30
rural	inside	north	S2002	four	1.95	1.30	67
rural	inside	north	S2002	four	2.32	1.07	46
rural	inside	north	S2002	four	1.51	1.27	84
rural	inside	north	S2002	four	2.91	0.72	25
rural	inside	north	S2002	four	2.30	1.12	49
rural	inside	north	S2002	four	2.85	2.11	74
rural	inside	north	S2002	four	1.57	1.35	86
rural	inside	north	S2002	four	1.66	1.24	75

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	north	S2002	four	2.53	0.87	34
rural	inside	north	S2002	four	2.82	0.88	31
rural	inside	north	S2002	four	1.77	1.53	86
rural	inside	north	S2002	four	2.86	0.95	33
rural	inside	north	S2002	full	2.25	1.21	54
rural	inside	north	S2002	full	1.38	1.25	91
rural	inside	north	S2002	full	1.76	1.19	68
rural	inside	north	S2002	full	1.67	1.21	72
rural	inside	north	S2002	full	1.83	1.19	65
rural	inside	north	S2002	full	1.79	1.38	77
rural	inside	north	S2002	full	1.57	1.18	75
rural	inside	north	S2002	full	1.72	1.22	71
rural	inside	north	S2002	full	1.81	1.27	70
rural	inside	north	S2002	full	1.94	1.09	56
rural	inside	north	S2002	full	2.06	1.37	67
rural	inside	north	S2002	full	1.58	1.32	84
rural	inside	north	S2002	full	1.91	1.36	71
rural	inside	north	S2002	full	1.34	1.02	76
rural	inside	north	S2002	full	1.62	1.30	80
rural	inside	north	S2002	full	1.45	1.15	79
rural	inside	north	S2002	full	1.62	1.15	71
rural	inside	north	S2002	full	1.66	1.20	72
rural	inside	north	S2002	full	1.49	1.18	79
rural	inside	north	S2002	full	1.47	1.21	82
rural	inside	north	F2002	zero	3.70	0.56	15
rural	inside	north	F2002	zero	2.92	1.13	39
rural	inside	north	F2002	zero	2.91	0.92	32
rural	inside	north	F2002	zero	2.06	1.63	79
rural	inside	north	F2002	zero	2.41	1.41	59
rural	inside	north	F2002	zero	3.58	0.50	14
rural	inside	north	F2002	zero	1.93	1.85	96
rural	inside	north	F2002	zero	1.88	1.66	88
rural	inside	north	F2002	zero	3.66	0.55	15
rural	inside	north	F2002	zero	2.62	1.09	42
rural	inside	north	F2002	zero	1.93	1.53	79
rural	inside	north	F2002	zero	2.06	1.54	75
rural	inside	north	F2002	zero	3.76	0.60	16
rural	inside	north	F2002	zero	2.32	1.01	44
rural	inside	north	F2002	zero	3.59	0.62	17
rural	inside	north	F2002	zero	1.86	1.29	69
rural	inside	north	F2002	zero	1.98	1.27	64
rural	inside	north	F2002	zero	1.81	1.48	82
rural	inside	north	F2002	zero	1.83	1.46	80
rural	inside	north	F2002	zero	3.33	0.98	29
rural	inside	north	F2002	three	2.12	1.50	71
rural	inside	north	F2002	three	2.45	1.90	78
rural	inside	north	F2002	three	2.79	1.20	43
rural	inside	north	F2002	three	2.07	1.50	72
rural	inside	north	F2002	three	2.57	1.36	53
rural	inside	north	F2002	three			
rural	inside	north	F2002	three	1.84	1.36	74
rural	inside	north	F2002	three	1.85	1.49	81
rural	inside	north	F2002	three	2.02	1.67	83
rural	inside	north	F2002	three	2.01	1.71	85
rural	inside	north	F2002	three	1.95	1.57	81
rural	inside	north	F2002	three	2.37	1.31	55
rural	inside	north	F2002	three	2.95	0.84	28
rural	inside	north	F2002	three	1.94	1.61	83
rural	inside	north	F2002	three	2.12	1.49	70
rural	inside	north	F2002	three			
rural	inside	north	F2002	three	3.34	0.88	26
rural	inside	north	F2002	three	3.29	2.49	76

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	north	F2002	three	2.18	1.76	81
rural	inside	north	F2002	three	1.93	1.70	88
rural	inside	north	F2002	four	1.99	1.74	87
rural	inside	north	F2002	four	2.82	1.04	37
rural	inside	north	F2002	four	3.56	0.80	22
rural	inside	north	F2002	four	2.22	1.69	76
rural	inside	north	F2002	four	2.05	1.51	74
rural	inside	north	F2002	four	3.13	2.33	74
rural	inside	north	F2002	four	2.10	1.38	66
rural	inside	north	F2002	four	2.21	1.26	57
rural	inside	north	F2002	four	2.07	1.52	73
rural	inside	north	F2002	four	2.00	1.57	79
rural	inside	north	F2002	four	3.30	0.86	26
rural	inside	north	F2002	four	2.12	1.61	76
rural	inside	north	F2002	four	2.79	1.12	40
rural	inside	north	F2002	four	2.06	1.53	74
rural	inside	north	F2002	four	1.91	1.50	79
rural	inside	north	F2002	four	2.18	1.62	74
rural	inside	north	F2002	four	2.30	1.21	53
rural	inside	north	F2002	four	2.06	1.85	90
rural	inside	north	F2002	four	2.17	1.64	76
rural	inside	north	F2002	four	2.25	1.74	77
rural	inside	north	F2002	full	2.51	1.37	55
rural	inside	north	F2002	full	1.96	1.22	62
rural	inside	north	F2002	full	2.06	1.32	64
rural	inside	north	F2002	full	2.08	1.46	70
rural	inside	north	F2002	full	2.14	1.41	66
rural	inside	north	F2002	full	1.79	1.36	76
rural	inside	north	F2002	full	1.65	1.28	78
rural	inside	north	F2002	full	1.98	1.36	69
rural	inside	north	F2002	full	1.97	1.45	74
rural	inside	north	F2002	full	2.08	1.30	63
rural	inside	north	F2002	full	2.21	1.36	62
rural	inside	north	F2002	full	1.84	1.45	79
rural	inside	north	F2002	full	2.16	1.58	73
rural	inside	north	F2002	full	1.65	1.25	76
rural	inside	north	F2002	full	1.92	16.00	833
rural	inside	north	F2002	full	1.86	1.39	75
rural	inside	north	F2002	full	1.99	1.31	66
rural	inside	north	F2002	full	1.75	1.37	78
rural	inside	north	F2002	full	2.01	1.44	72
rural	inside	north	F2002	full	1.88	1.39	74
rural	inside	north	S2003	zero	2.84	0.68	24
rural	inside	north	S2003	zero	2.92	0.61	21
rural	inside	north	S2003	zero	2.87	0.59	21
rural	inside	north	S2003	zero	2.67	0.54	20
rural	inside	north	S2003	zero	3.29	0.60	18
rural	inside	north	S2003	zero	2.83	0.55	19
rural	inside	north	S2003	zero	2.13	1.16	54
rural	inside	north	S2003	zero	2.36	1.13	48
rural	inside	north	S2003	zero	3.17	0.68	21
rural	inside	north	S2003	zero	2.64	0.96	36
rural	inside	north	S2003	zero	1.54	1.28	83
rural	inside	north	S2003	zero	3.09	0.69	22
rural	inside	north	S2003	zero	2.77	0.59	21
rural	inside	north	S2003	zero	2.57	0.78	30
rural	inside	north	S2003	zero	2.79	0.64	23
rural	inside	north	S2003	zero	1.82	0.93	51
rural	inside	north	S2003	zero	1.73	1.08	62
rural	inside	north	S2003	zero	2.11	1.05	50
rural	inside	north	S2003	zero		0.86	
rural	inside	north	S2003	zero	2.40	0.97	40

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	inside	north	S2003	three	2.54	1.10	43
rural	inside	north	S2003	three	1.73	1.08	62
rural	inside	north	S2003	three	1.73	1.15	66
rural	inside	north	S2003	three	1.53	1.33	87
rural	inside	north	S2003	three	2.07	0.93	45
rural	inside	north	S2003	three	1.43	1.14	80
rural	inside	north	S2003	three	1.71	1.12	65
rural	inside	north	S2003	three	2.14	1.00	47
rural	inside	north	S2003	three	2.60	0.95	37
rural	inside	north	S2003	three	1.68	1.27	76
rural	inside	north	S2003	three	2.49	0.89	36
rural	inside	north	S2003	three	2.71	0.79	29
rural	inside	north	S2003	three	1.73	1.35	78
rural	inside	north	S2003	three	3.09	0.71	23
rural	inside	north	S2003	three	2.51	0.68	27
rural	inside	north	S2003	three	2.82	0.68	24
rural	inside	north	S2003	three	2.78	0.75	27
rural	inside	north	S2003	three	2.61	0.72	28
rural	inside	north	S2003	three	1.96	1.25	64
rural	inside	north	S2003	three	2.67	0.72	27
rural	inside	north	S2003	four	2.47	0.77	31
rural	inside	north	S2003	four	1.06	0.96	91
rural	inside	north	S2003	four	2.31	0.78	34
rural	inside	north	S2003	four	2.37	0.77	32
rural	inside	north	S2003	four	2.50	0.72	29
rural	inside	north	S2003	four	2.72	0.70	26
rural	inside	north	S2003	four	2.41	0.72	30
rural	inside	north	S2003	four	0.40	0.67	168
rural	inside	north	S2003	four	1.77	1.10	62
rural	inside	north	S2003	four	2.04	0.68	33
rural	inside	north	S2003	four	1.91	0.83	43
rural	inside	north	S2003	four	2.15	0.97	45
rural	inside	north	S2003	four	2.43	0.87	36
rural	inside	north	S2003	four	2.31	0.68	29
rural	inside	north	S2003	four	2.12	0.67	32
rural	inside	north	S2003	four	2.03	0.75	37
rural	inside	north	S2003	four	2.24	0.78	35
rural	inside	north	S2003	four	2.63	0.82	31
rural	inside	north	S2003	four	1.73	1.38	80
rural	inside	north	S2003	four	2.49	0.86	35
rural	inside	north	S2003	full	1.78	1.16	65
rural	inside	north	S2003	full	1.46	1.19	82
rural	inside	north	S2003	full	1.47	1.11	76
rural	inside	north	S2003	full	1.47	1.14	78
rural	inside	north	S2003	full	1.49	1.09	73
rural	inside	north	S2003	full	1.58	1.10	70
rural	inside	north	S2003	full	1.29	1.08	84
rural	inside	north	S2003	full	1.65	1.10	67
rural	inside	north	S2003	full	1.74	1.11	64
rural	inside	north	S2003	full	1.80	1.11	62
rural	inside	north	S2003	full	1.73	1.26	73
rural	inside	north	S2003	full	1.53	1.23	80
rural	inside	north	S2003	full	1.60	1.23	77
rural	inside	north	S2003	full	1.11	0.93	84
rural	inside	north	S2003	full	1.49	1.04	70
rural	inside	north	S2003	full	1.31	1.07	82
rural	inside	north	S2003	full	1.54	1.05	68
rural	inside	north	S2003	full	1.37	1.12	82
rural	inside	north	S2003	full	1.41	1.13	80
rural	inside	north	S2003	full	1.43	1.15	80
rural	outside	south	F1998	zero	2.05	1.62	79
rural	outside	south	F1998	zero	1.48	1.16	78

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	south	F1998	zero	1.73	1.37	79
rural	outside	south	F1998	zero	2.20	1.70	77
rural	outside	south	F1998	zero	1.63	1.30	80
rural	outside	south	F1998	zero	1.61	1.28	80
rural	outside	south	F1998	zero	1.93	1.54	80
rural	outside	south	F1998	zero	1.67	1.36	81
rural	outside	south	F1998	zero	1.72	1.41	82
rural	outside	south	F1998	zero	1.81	1.44	80
rural	outside	south	F1998	zero	1.45	1.16	80
rural	outside	south	F1998	zero	1.40	1.15	82
rural	outside	south	F1998	zero	2.03	1.61	79
rural	outside	south	F1998	zero	1.69	1.39	82
rural	outside	south	F1998	zero	1.95	1.55	79
rural	outside	south	F1998	zero	1.86	1.47	79
rural	outside	south	F1998	zero	1.32	1.12	85
rural	outside	south	F1998	zero	1.42	1.17	82
rural	outside	south	F1998	zero	1.53	1.28	84
rural	outside	south	F1998	zero	1.53	1.30	85
rural	outside	south	S1999	three	2.16	1.78	82
rural	outside	south	S1999	three	1.41	1.23	87
rural	outside	south	S1999	three	1.17	1.00	85
rural	outside	south	S1999	three	1.26	1.07	85
rural	outside	south	S1999	three	1.27	1.09	86
rural	outside	south	S1999	three	1.29	1.08	84
rural	outside	south	S1999	three	1.20	1.01	84
rural	outside	south	S1999	three	1.23	1.07	87
rural	outside	south	S1999	three	1.18	1.01	86
rural	outside	south	S1999	three	0.97	0.88	91
rural	outside	south	S1999	three	1.49	1.23	83
rural	outside	south	S1999	three	1.39	1.18	85
rural	outside	south	S1999	three	1.39	1.21	87
rural	outside	south	S1999	three	1.88	1.53	81
rural	outside	south	S1999	three	1.67	1.41	84
rural	outside	south	S1999	three	1.79	1.48	83
rural	outside	south	S1999	three	2.18	1.71	78
rural	outside	south	S1999	three	1.36	1.16	85
rural	outside	south	S1999	three	1.78	1.49	84
rural	outside	south	S1999	three	2.00	1.68	84
rural	outside	south	S1999	four	1.91	1.60	84
rural	outside	south	S1999	four	1.46	1.28	88
rural	outside	south	S1999	four	1.72	1.43	83
rural	outside	south	S1999	four	1.53	1.27	83
rural	outside	south	S1999	four	1.43	1.23	86
rural	outside	south	S1999	four	1.29	1.10	85
rural	outside	south	S1999	four	1.70	1.35	79
rural	outside	south	S1999	four	1.72	1.37	80
rural	outside	south	S1999	four	1.39	1.17	84
rural	outside	south	S1999	four	1.76	1.41	80
rural	outside	south	S1999	four	1.46	1.24	85
rural	outside	south	S1999	four	1.27	1.09	86
rural	outside	south	S1999	four	1.33	1.13	85
rural	outside	south	S1999	four	1.67	1.34	80
rural	outside	south	S1999	four	1.51	1.23	81
rural	outside	south	S1999	four	1.18	1.04	88
rural	outside	south	S1999	four	1.60	1.29	81
rural	outside	south	S1999	four	1.76	1.35	77
rural	outside	south	S1999	four	1.24	1.06	85
rural	outside	south	S1999	four	1.07	0.94	88
rural	outside	south	S1999	full	1.31	1.08	82
rural	outside	south	S1999	full	1.18	1.02	86
rural	outside	south	S1999	full	1.15	1.00	87
rural	outside	south	S1999	full	1.42	1.16	82

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	south	S1999	full	1.59	1.26	79
rural	outside	south	S1999	full	1.31	1.08	82
rural	outside	south	S1999	full	1.30	1.09	84
rural	outside	south	S1999	full	1.09	0.95	87
rural	outside	south	S1999	full	1.74	1.36	78
rural	outside	south	S1999	full	1.55	1.24	80
rural	outside	south	S1999	full	1.79	1.45	81
rural	outside	south	S1999	full	1.92	1.51	79
rural	outside	south	S1999	full	1.79	1.44	80
rural	outside	south	S1999	full	1.93	1.51	78
rural	outside	south	S1999	full	1.41	1.17	83
rural	outside	south	S1999	full	1.40	1.16	83
rural	outside	south	S1999	full	1.16	1.02	88
rural	outside	south	S1999	full	1.72	1.39	81
rural	outside	south	S1999	full	1.87	1.58	84
rural	outside	south	S1999	full	1.54	1.24	81
rural	outside	south	S1999	full	1.49	1.21	81
rural	outside	south	S1999	full	1.12	0.96	86
rural	outside	south	S1999	full	1.20	1.04	87
rural	outside	south	S1999	full	1.39	1.12	81
rural	outside	south	S1999	full	1.55	1.21	78
rural	outside	south	S1999	full	1.47	1.20	82
rural	outside	south	S1999	full	1.67	1.33	80
rural	outside	south	S1999	full	1.76	1.42	81
rural	outside	south	S1999	full	1.90	1.54	81
rural	outside	south	S1999	full	1.87	1.57	84
rural	outside	south	S1999	full	1.78	1.42	80
rural	outside	south	S1999	full	1.51	1.29	85
rural	outside	south	F1999	zero	1.33	1.14	86
rural	outside	south	F1999	zero	1.11	0.98	88
rural	outside	south	F1999	zero	1.06	0.96	91
rural	outside	south	F1999	zero	1.64	1.39	85
rural	outside	south	F1999	zero	1.11	0.98	88
rural	outside	south	F1999	zero	1.66	1.38	83
rural	outside	south	F1999	zero	1.66	1.40	84
rural	outside	south	F1999	zero	2.71	2.30	85
rural	outside	south	F1999	zero	1.73	1.53	88
rural	outside	south	F1999	zero	1.39	1.20	86
rural	outside	south	F1999	zero	1.07	0.95	89
rural	outside	south	F1999	zero	1.28	1.09	85
rural	outside	south	F1999	zero	1.98	1.58	80
rural	outside	south	F1999	zero	1.20	1.08	90
rural	outside	south	F1999	zero	1.18	1.04	88
rural	outside	south	F1999	zero	1.22	1.08	89
rural	outside	south	F1999	zero	1.30	1.11	85
rural	outside	south	F1999	zero	1.26	1.11	88
rural	outside	south	F1999	zero	1.20	1.09	91
rural	outside	south	F1999	zero	1.62	1.37	85
rural	outside	south	F1999	three	1.48	1.29	87
rural	outside	south	F1999	three	1.34	1.17	87
rural	outside	south	F1999	three	1.47	1.26	86
rural	outside	south	F1999	three	1.76	1.46	83
rural	outside	south	F1999	three	1.12	0.99	88
rural	outside	south	F1999	three	1.50	1.26	84
rural	outside	south	F1999	three	1.52	1.32	87
rural	outside	south	F1999	three	1.42	1.26	89
rural	outside	south	F1999	three	1.29	1.14	88
rural	outside	south	F1999	three	1.39	1.22	88
rural	outside	south	F1999	three	1.67	1.38	83
rural	outside	south	F1999	three	1.18	1.04	88
rural	outside	south	F1999	three	1.63	1.35	83
rural	outside	south	F1999	three	1.37	1.17	85

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	south	F1999	three	1.40	1.19	85
rural	outside	south	F1999	three	1.35	1.19	88
rural	outside	south	F1999	three	1.21	1.08	89
rural	outside	south	F1999	three	1.14	1.01	89
rural	outside	south	F1999	three	1.44	1.21	84
rural	outside	south	F1999	three	1.23	1.06	86
rural	outside	south	F1999	four	1.21	1.04	86
rural	outside	south	F1999	four	1.15	1.02	89
rural	outside	south	F1999	four	1.15	1.02	89
rural	outside	south	F1999	four	1.16	1.03	89
rural	outside	south	F1999	four	1.29	1.09	84
rural	outside	south	F1999	four	1.29	1.08	84
rural	outside	south	F1999	four	1.19	1.00	84
rural	outside	south	F1999	four	1.12	0.94	84
rural	outside	south	F1999	four	1.24	1.18	95
rural	outside	south	F1999	four	1.19	1.01	85
rural	outside	south	F1999	four	1.08	0.93	86
rural	outside	south	F1999	four	1.17	1.02	87
rural	outside	south	F1999	four	1.43	1.17	82
rural	outside	south	F1999	four	1.37	1.11	81
rural	outside	south	F1999	four	1.57	1.22	78
rural	outside	south	F1999	four	1.11	0.94	85
rural	outside	south	F1999	four	1.36	1.12	82
rural	outside	south	F1999	four	1.31	1.10	84
rural	outside	south	F1999	four	1.52	1.26	83
rural	outside	south	F1999	four	1.32	1.15	87
rural	outside	south	F1999	full	1.42	1.23	87
rural	outside	south	F1999	full	1.64	1.36	83
rural	outside	south	F1999	full	1.47	1.24	84
rural	outside	south	F1999	full	1.38	1.18	86
rural	outside	south	F1999	full	1.30	1.10	85
rural	outside	south	F1999	full	1.30	1.10	85
rural	outside	south	F1999	full	1.38	1.16	84
rural	outside	south	F1999	full	1.46	1.15	79
rural	outside	south	F1999	full	1.48	1.19	80
rural	outside	south	F1999	full	1.30	1.09	84
rural	outside	south	F1999	full	1.15	1.02	89
rural	outside	south	F1999	full	1.19	1.08	91
rural	outside	south	F1999	full	1.56	1.25	80
rural	outside	south	F1999	full	1.23	1.03	84
rural	outside	south	F1999	full	1.68	1.31	78
rural	outside	south	F1999	full	1.61	1.34	83
rural	outside	south	F1999	full	1.38	1.20	87
rural	outside	south	F1999	full	1.67	1.44	86
rural	outside	south	F1999	full	1.99	1.57	79
rural	outside	south	F1999	full	1.86	1.51	81
rural	outside	south	S2000	zero	2.54	1.17	46
rural	outside	south	S2000	zero	3.22	0.90	28
rural	outside	south	S2000	zero	2.85	0.90	32
rural	outside	south	S2000	zero	3.78	0.87	23
rural	outside	south	S2000	zero	3.65	0.92	25
rural	outside	south	S2000	zero	4.01	0.97	24
rural	outside	south	S2000	zero	5.01	0.95	19
rural	outside	south	S2000	zero	5.91	1.14	19
rural	outside	south	S2000	zero	4.18	1.07	26
rural	outside	south	S2000	zero	2.97	1.11	37
rural	outside	south	S2000	zero	2.70	0.86	32
rural	outside	south	S2000	zero	2.39	0.95	40
rural	outside	south	S2000	zero	3.03	0.87	29
rural	outside	south	S2000	zero	3.99	0.85	21
rural	outside	south	S2000	zero	2.63	0.88	33
rural	outside	south	S2000	zero	2.79	0.90	32

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	south	S2000	zero	1.67	1.34	80
rural	outside	south	S2000	zero	1.71	1.22	71
rural	outside	south	S2000	zero	1.57	1.55	99
rural	outside	south	S2000	zero	1.73	1.70	98
rural	outside	south	S2000	three	1.79	1.62	91
rural	outside	south	S2000	three	1.76	1.53	87
rural	outside	south	S2000	three	1.75	1.56	89
rural	outside	south	S2000	three	1.86	1.39	75
rural	outside	south	S2000	three	1.58	1.49	94
rural	outside	south	S2000	three	1.54	1.43	93
rural	outside	south	S2000	three	1.73	1.64	95
rural	outside	south	S2000	three	1.96	1.77	90
rural	outside	south	S2000	three	1.98	1.83	92
rural	outside	south	S2000	three	1.89	1.84	97
rural	outside	south	S2000	three	1.68	1.58	94
rural	outside	south	S2000	three	1.55	1.48	95
rural	outside	south	S2000	three	2.08	1.68	81
rural	outside	south	S2000	three	2.11	1.70	81
rural	outside	south	S2000	three	1.92	1.68	88
rural	outside	south	S2000	three	2.04	1.44	71
rural	outside	south	S2000	three	1.77	1.46	82
rural	outside	south	S2000	three	1.86	1.45	78
rural	outside	south	S2000	three	2.35	1.61	69
rural	outside	south	S2000	three	1.60	1.46	91
rural	outside	south	S2000	four	1.88	1.64	87
rural	outside	south	S2000	four	2.16	1.74	81
rural	outside	south	S2000	four	1.97	1.68	85
rural	outside	south	S2000	four	1.77	1.62	92
rural	outside	south	S2000	four	1.83	1.42	78
rural	outside	south	S2000	four	1.91	1.70	89
rural	outside	south	S2000	four	2.13	1.59	75
rural	outside	south	S2000	four	1.96	1.50	77
rural	outside	south	S2000	four	1.93	1.73	90
rural	outside	south	S2000	four	1.93	1.53	79
rural	outside	south	S2000	four	1.76	1.46	83
rural	outside	south	S2000	four	1.86	1.47	79
rural	outside	south	S2000	four	1.91	1.31	69
rural	outside	south	S2000	four	1.90	1.37	72
rural	outside	south	S2000	four	2.06	1.62	79
rural	outside	south	S2000	four	1.86	1.24	67
rural	outside	south	S2000	four	1.95	1.54	79
rural	outside	south	S2000	four	2.00	1.61	81
rural	outside	south	S2000	four	2.62	1.92	73
rural	outside	south	S2000	four	1.91	1.71	90
rural	outside	south	S2000	full	1.89	1.88	99
rural	outside	south	S2000	full	2.15	1.82	85
rural	outside	south	S2000	full	2.00	1.59	80
rural	outside	south	S2000	full	1.66	1.47	89
rural	outside	south	S2000	full	1.76	1.56	89
rural	outside	south	S2000	full	2.04	1.82	89
rural	outside	south	S2000	full	2.03	1.93	95
rural	outside	south	S2000	full	1.78	1.63	92
rural	outside	south	S2000	full	1.45	1.37	94
rural	outside	south	S2000	full	1.63	1.41	87
rural	outside	south	S2000	full	1.44	1.21	84
rural	outside	south	S2000	full	1.62	1.35	83
rural	outside	south	S2000	full	1.79	1.30	73
rural	outside	south	S2000	full	1.35	1.23	91
rural	outside	south	S2000	full	1.76	1.65	94
rural	outside	south	S2000	full	2.39	2.08	87
rural	outside	south	S2000	full	2.04	1.81	89
rural	outside	south	S2000	full	2.35	1.96	83

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	south	S2000	full	1.97	1.81	92
rural	outside	south	S2000	full	1.96	1.72	88
rural	outside	south	F2000	zero	4.03	0.99	25
rural	outside	south	F2000	zero	4.50	1.03	23
rural	outside	south	F2000	zero	3.78	0.90	24
rural	outside	south	F2000	zero	3.85	0.80	21
rural	outside	south	F2000	zero	3.91	0.78	20
rural	outside	south	F2000	zero	4.28	0.90	21
rural	outside	south	F2000	zero	4.93	0.85	17
rural	outside	south	F2000	zero	5.37	0.99	18
rural	outside	south	F2000	zero	3.56	0.85	24
rural	outside	south	F2000	zero	2.69	0.83	31
rural	outside	south	F2000	zero	2.52	0.73	29
rural	outside	south	F2000	zero	2.86	0.74	26
rural	outside	south	F2000	zero	2.46	2.03	83
rural	outside	south	F2000	zero	3.79	0.76	20
rural	outside	south	F2000	zero	2.98	0.78	26
rural	outside	south	F2000	zero	3.61	0.87	24
rural	outside	south	F2000	zero	2.88	0.90	31
rural	outside	south	F2000	zero	2.58	0.98	38
rural	outside	south	F2000	zero	2.52	1.10	44
rural	outside	south	F2000	zero	3.42	1.23	36
rural	outside	south	F2000	three	3.19	1.29	40
rural	outside	south	F2000	three	2.28	1.70	75
rural	outside	south	F2000	three	2.21	1.76	80
rural	outside	south	F2000	three	2.37	1.79	76
rural	outside	south	F2000	three	1.97	1.90	96
rural	outside	south	F2000	three	2.18	1.64	75
rural	outside	south	F2000	three	2.23	1.90	85
rural	outside	south	F2000	three	2.34	1.93	82
rural	outside	south	F2000	three	2.45	1.98	81
rural	outside	south	F2000	three	2.24	1.82	81
rural	outside	south	F2000	three	1.93	1.67	87
rural	outside	south	F2000	three	2.07	1.54	74
rural	outside	south	F2000	three	2.20	1.56	71
rural	outside	south	F2000	three	1.92	1.51	79
rural	outside	south	F2000	three	1.49	1.45	97
rural	outside	south	F2000	three	2.26	1.40	62
rural	outside	south	F2000	three	2.25	1.43	64
rural	outside	south	F2000	three	1.93	1.50	78
rural	outside	south	F2000	three	2.45	1.67	68
rural	outside	south	F2000	three	2.16	1.58	73
rural	outside	south	F2000	four	1.85	1.49	81
rural	outside	south	F2000	four	1.92	1.74	91
rural	outside	south	F2000	four	2.00	1.35	68
rural	outside	south	F2000	four	1.98	1.36	69
rural	outside	south	F2000	four	2.04	1.27	62
rural	outside	south	F2000	four	1.79	1.30	73
rural	outside	south	F2000	four	1.93	1.30	67
rural	outside	south	F2000	four	1.81	1.40	77
rural	outside	south	F2000	four	1.70	1.44	85
rural	outside	south	F2000	four	1.51	1.35	89
rural	outside	south	F2000	four	1.82	1.31	72
rural	outside	south	F2000	four	1.88	1.37	73
rural	outside	south	F2000	four	1.94	1.27	65
rural	outside	south	F2000	four	2.00	1.43	72
rural	outside	south	F2000	four	1.89	1.64	87
rural	outside	south	F2000	four	1.83	1.28	70
rural	outside	south	F2000	four	1.97	1.33	68
rural	outside	south	F2000	four	2.36	1.49	63
rural	outside	south	F2000	four	2.33	1.58	68
rural	outside	south	F2000	four	2.22	1.55	70

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	south	F2000	full	2.13	1.68	79
rural	outside	south	F2000	full	1.86	1.71	92
rural	outside	south	F2000	full	1.74	1.46	84
rural	outside	south	F2000	full	1.67	1.45	87
rural	outside	south	F2000	full	1.67	1.35	81
rural	outside	south	F2000	full	1.74	1.55	89
rural	outside	south	F2000	full	1.91	1.63	85
rural	outside	south	F2000	full	1.64	1.50	91
rural	outside	south	F2000	full	1.57	1.32	84
rural	outside	south	F2000	full	1.83	1.56	85
rural	outside	south	F2000	full	1.54	1.38	90
rural	outside	south	F2000	full	1.77	1.41	80
rural	outside	south	F2000	full	1.52	1.30	86
rural	outside	south	F2000	full	1.76	1.29	73
rural	outside	south	F2000	full	1.74	1.31	75
rural	outside	south	F2000	full	1.99	1.66	83
rural	outside	south	F2000	full	1.99	1.70	85
rural	outside	south	F2000	full	2.45	2.11	86
rural	outside	south	F2000	full	2.30	1.95	85
rural	outside	south	F2000	full	2.11	1.95	92
rural	outside	south	S2001	zero	3.29	1.51	46
rural	outside	south	S2001	zero	5.40	1.06	20
rural	outside	south	S2001	zero	6.50	1.09	17
rural	outside	south	S2001	zero	7.11	1.06	15
rural	outside	south	S2001	zero	7.32	1.13	15
rural	outside	south	S2001	zero	6.26	1.05	17
rural	outside	south	S2001	zero	5.70	0.92	16
rural	outside	south	S2001	zero	6.54	1.05	16
rural	outside	south	S2001	zero	5.61	1.01	18
rural	outside	south	S2001	zero	3.79	2.01	53
rural	outside	south	S2001	zero	4.29	0.91	21
rural	outside	south	S2001	zero	4.72	0.92	19
rural	outside	south	S2001	zero	3.51	2.52	72
rural	outside	south	S2001	zero	4.66	0.77	17
rural	outside	south	S2001	zero	6.31	0.90	14
rural	outside	south	S2001	zero	5.62	1.03	18
rural	outside	south	S2001	zero	2.89	1.65	57
rural	outside	south	S2001	zero	4.59	1.04	23
rural	outside	south	S2001	zero	4.33	3.55	82
rural	outside	south	S2001	zero	3.30	1.87	57
rural	outside	south	S2001	three	5.36	1.48	28
rural	outside	south	S2001	three	2.88	2.17	75
rural	outside	south	S2001	three	2.46	2.21	90
rural	outside	south	S2001	three	2.69	1.77	66
rural	outside	south	S2001	three	2.79	1.95	70
rural	outside	south	S2001	three	2.50	1.78	71
rural	outside	south	S2001	three	2.77	1.89	68
rural	outside	south	S2001	three	2.66	2.03	76
rural	outside	south	S2001	three	2.64	2.14	81
rural	outside	south	S2001	three	2.87	1.97	69
rural	outside	south	S2001	three	2.49	1.83	73
rural	outside	south	S2001	three	2.70	1.94	72
rural	outside	south	S2001	three	3.33	2.28	68
rural	outside	south	S2001	three	2.86	2.50	87
rural	outside	south	S2001	three	2.78	2.04	73
rural	outside	south	S2001	three	3.46	2.23	64
rural	outside	south	S2001	three	2.88	1.98	69
rural	outside	south	S2001	three	3.20	2.07	65
rural	outside	south	S2001	three	3.10	2.57	83
rural	outside	south	S2001	three	3.34	2.19	66
rural	outside	south	S2001	four	3.01	2.41	80
rural	outside	south	S2001	four	2.94	2.30	78

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	south	S2001	four	2.82	1.94	69
rural	outside	south	S2001	four	2.93	2.15	73
rural	outside	south	S2001	four	3.23	2.11	65
rural	outside	south	S2001	four	3.21	2.19	68
rural	outside	south	S2001	four	3.05	2.15	70
rural	outside	south	S2001	four	2.88	2.11	73
rural	outside	south	S2001	four	2.98	2.30	77
rural	outside	south	S2001	four	3.07	2.71	88
rural	outside	south	S2001	four	2.87	2.55	89
rural	outside	south	S2001	four	3.27	2.53	77
rural	outside	south	S2001	four	3.36	2.31	69
rural	outside	south	S2001	four	3.26	1.94	60
rural	outside	south	S2001	four	2.86	2.27	79
rural	outside	south	S2001	four	2.79	2.16	77
rural	outside	south	S2001	four	3.19	2.45	77
rural	outside	south	S2001	four	3.41	2.58	76
rural	outside	south	S2001	four	4.07	3.30	81
rural	outside	south	S2001	four	2.98	2.48	83
rural	outside	south	S2001	full	2.98	2.45	82
rural	outside	south	S2001	full	2.86	2.50	87
rural	outside	south	S2001	full	2.76	2.15	78
rural	outside	south	S2001	full	2.54	2.04	80
rural	outside	south	S2001	full	2.56	2.19	86
rural	outside	south	S2001	full	3.05	2.63	86
rural	outside	south	S2001	full	3.02	2.64	87
rural	outside	south	S2001	full	2.48	2.16	87
rural	outside	south	S2001	full	2.08	1.85	89
rural	outside	south	S2001	full	2.38	2.05	86
rural	outside	south	S2001	full	1.93	1.75	91
rural	outside	south	S2001	full	2.09	1.81	87
rural	outside	south	S2001	full	2.30	1.81	79
rural	outside	south	S2001	full	2.12	1.55	73
rural	outside	south	S2001	full	2.56	1.97	77
rural	outside	south	S2001	full	2.44	1.97	81
rural	outside	south	S2001	full	2.30	1.95	85
rural	outside	south	S2001	full	2.80	2.45	88
rural	outside	south	S2001	full	2.70	2.28	84
rural	outside	south	S2001	full	2.59	2.13	82
rural	outside	south	F2001	zero	5.05	2.50	50
rural	outside	south	F2001	zero	4.45	1.89	42
rural	outside	south	F2001	zero	9.99	1.22	12
rural	outside	south	F2001	zero	8.82	1.48	17
rural	outside	south	F2001	zero	5.74	1.94	34
rural	outside	south	F2001	zero	9.99	1.37	14
rural	outside	south	F2001	zero	4.78	2.05	43
rural	outside	south	F2001	zero	4.01	3.40	85
rural	outside	south	F2001	zero	3.73	3.65	98
rural	outside	south	F2001	zero	9.63	1.38	14
rural	outside	south	F2001	zero	3.54	1.90	54
rural	outside	south	F2001	zero	3.25	1.72	53
rural	outside	south	F2001	zero	7.13	0.67	9
rural	outside	south	F2001	zero	4.37	2.47	57
rural	outside	south	F2001	zero	2.54	2.09	82
rural	outside	south	F2001	zero	3.12	2.81	90
rural	outside	south	F2001	zero	3.33	2.45	74
rural	outside	south	F2001	zero	2.55	2.25	88
rural	outside	south	F2001	zero	2.87	2.18	76
rural	outside	south	F2001	zero	2.65	2.30	87
rural	outside	south	F2001	three	2.89	2.49	86
rural	outside	south	F2001	three	2.29	2.16	94
rural	outside	south	F2001	three	3.07	2.83	92
rural	outside	south	F2001	three	3.53	3.22	91

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	south	F2001	three	3.32	3.06	92
rural	outside	south	F2001	three	2.69	2.54	94
rural	outside	south	F2001	three	3.26	3.11	95
rural	outside	south	F2001	three	3.22	3.11	97
rural	outside	south	F2001	three	3.46	3.11	90
rural	outside	south	F2001	three	3.33	3.22	97
rural	outside	south	F2001	three	2.45	2.36	96
rural	outside	south	F2001	three	2.49	2.28	92
rural	outside	south	F2001	three	2.80	2.68	96
rural	outside	south	F2001	three	3.31	3.19	96
rural	outside	south	F2001	three	2.99	2.80	94
rural	outside	south	F2001	three	3.05	2.81	92
rural	outside	south	F2001	three	2.76	2.61	95
rural	outside	south	F2001	three	3.37	3.12	93
rural	outside	south	F2001	three	3.85	3.45	90
rural	outside	south	F2001	three	3.64	3.27	90
rural	outside	south	F2001	four	4.06	3.85	95
rural	outside	south	F2001	four	3.44	3.40	99
rural	outside	south	F2001	four	3.23	3.07	95
rural	outside	south	F2001	four	3.66	3.49	95
rural	outside	south	F2001	four	3.84	3.57	93
rural	outside	south	F2001	four	2.86	2.65	93
rural	outside	south	F2001	four	3.08	2.78	90
rural	outside	south	F2001	four	3.66	3.33	91
rural	outside	south	F2001	four	3.87	3.53	91
rural	outside	south	F2001	four	4.47	4.15	93
rural	outside	south	F2001	four	4.04	3.66	91
rural	outside	south	F2001	four	4.28	3.78	88
rural	outside	south	F2001	four	3.77	3.45	92
rural	outside	south	F2001	four	3.15	2.94	93
rural	outside	south	F2001	four	3.14	3.05	97
rural	outside	south	F2001	four	3.21	2.96	92
rural	outside	south	F2001	four	3.35	3.30	99
rural	outside	south	F2001	four	3.76	3.65	97
rural	outside	south	F2001	four	3.83	3.64	95
rural	outside	south	F2001	four	3.82	3.66	96
rural	outside	south	F2001	full	3.66	3.55	97
rural	outside	south	F2001	full	3.26	3.20	98
rural	outside	south	F2001	full	3.08	2.86	93
rural	outside	south	F2001	full	3.13	2.91	93
rural	outside	south	F2001	full	2.80	2.68	96
rural	outside	south	F2001	full	2.89	2.79	97
rural	outside	south	F2001	full	2.86	2.77	97
rural	outside	south	F2001	full	2.50	2.35	94
rural	outside	south	F2001	full	1.82	1.57	86
rural	outside	south	F2001	full	2.05	1.85	90
rural	outside	south	F2001	full	1.53	1.40	92
rural	outside	south	F2001	full	1.59	1.48	93
rural	outside	south	F2001	full	1.79	1.60	89
rural	outside	south	F2001	full	1.78	1.60	90
rural	outside	south	F2001	full	2.68	2.26	84
rural	outside	south	F2001	full	2.70	2.59	96
rural	outside	south	F2001	full	2.60	2.38	92
rural	outside	south	F2001	full	2.96	2.69	91
rural	outside	south	F2001	full	3.29	2.92	89
rural	outside	south	F2001	full	2.99	2.77	93
rural	outside	south	S2002	zero	5.31	2.25	42
rural	outside	south	S2002	zero	7.16	0.99	14
rural	outside	south	S2002	zero	8.39	1.09	13
rural	outside	south	S2002	zero	8.47	1.00	12
rural	outside	south	S2002	zero	8.19	0.92	11
rural	outside	south	S2002	zero	7.95	0.94	12

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	south	S2002	zero	5.79	2.62	45
rural	outside	south	S2002	zero	9.99	1.18	12
rural	outside	south	S2002	zero	5.72	3.21	56
rural	outside	south	S2002	zero	4.41	2.98	68
rural	outside	south	S2002	zero	5.22	0.72	14
rural	outside	south	S2002	zero	3.20	2.87	90
rural	outside	south	S2002	zero	4.08	3.28	80
rural	outside	south	S2002	zero	3.68	2.17	59
rural	outside	south	S2002	zero	3.62	1.17	32
rural	outside	south	S2002	zero	3.92	2.42	62
rural	outside	south	S2002	zero	3.71	1.91	51
rural	outside	south	S2002	zero	6.27	0.91	15
rural	outside	south	S2002	zero	3.59	2.04	57
rural	outside	south	S2002	zero	3.21	2.05	64
rural	outside	south	S2002	three	3.52	2.08	59
rural	outside	south	S2002	three	2.54	2.22	87
rural	outside	south	S2002	three	2.59	2.26	87
rural	outside	south	S2002	three	2.33	2.02	87
rural	outside	south	S2002	three	2.26	2.06	91
rural	outside	south	S2002	three	2.40	2.14	89
rural	outside	south	S2002	three	2.48	2.16	87
rural	outside	south	S2002	three		2.47	
rural	outside	south	S2002	three	2.81	2.38	85
rural	outside	south	S2002	three	2.52	2.37	94
rural	outside	south	S2002	three	2.41	1.93	80
rural	outside	south	S2002	three	2.10	1.98	94
rural	outside	south	S2002	three	2.78	2.50	90
rural	outside	south	S2002	three	2.91	2.58	89
rural	outside	south	S2002	three	3.65	2.65	73
rural	outside	south	S2002	three	3.70	2.82	76
rural	outside	south	S2002	three	3.61	2.60	72
rural	outside	south	S2002	three	3.24	2.76	85
rural	outside	south	S2002	three	3.32	2.74	83
rural	outside	south	S2002	three	2.94	2.61	89
rural	outside	south	S2002	four	2.61	2.40	92
rural	outside	south	S2002	four	2.47	2.21	89
rural	outside	south	S2002	four	2.42	2.11	87
rural	outside	south	S2002	four	2.91	2.45	84
rural	outside	south	S2002	four	3.08	2.73	89
rural	outside	south	S2002	four	2.86	2.59	91
rural	outside	south	S2002	four	3.55	2.25	63
rural	outside	south	S2002	four	2.89	2.52	87
rural	outside	south	S2002	four	3.11	2.66	86
rural	outside	south	S2002	four	3.60	2.44	68
rural	outside	south	S2002	four	2.70	2.34	87
rural	outside	south	S2002	four	2.88	2.62	91
rural	outside	south	S2002	four	3.08	2.50	81
rural	outside	south	S2002	four	3.07	2.61	85
rural	outside	south	S2002	four	3.19	2.77	87
rural	outside	south	S2002	four	2.87	2.33	81
rural	outside	south	S2002	four	2.85	2.38	84
rural	outside	south	S2002	four	2.89	2.34	81
rural	outside	south	S2002	four	3.45	2.99	87
rural	outside	south	S2002	four	3.38	2.92	86
rural	outside	south	S2002	full	3.08	2.75	89
rural	outside	south	S2002	full	2.69	2.45	91
rural	outside	south	S2002	full	2.33	2.08	89
rural	outside	south	S2002	full	1.99	1.78	89
rural	outside	south	S2002	full	2.02	1.74	86
rural	outside	south	S2002	full	2.62	2.28	87
rural	outside	south	S2002	full	2.57	2.23	87
rural	outside	south	S2002	full	2.37	2.02	85

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	south	S2002	full	1.82	1.60	88
rural	outside	south	S2002	full	1.72	1.50	87
rural	outside	south	S2002	full	1.39	1.22	88
rural	outside	south	S2002	full	1.62	1.35	83
rural	outside	south	S2002	full	1.65	1.42	86
rural	outside	south	S2002	full	1.66	1.49	90
rural	outside	south	S2002	full	2.46	1.92	78
rural	outside	south	S2002	full	2.83	2.42	86
rural	outside	south	S2002	full	2.32	2.10	91
rural	outside	south	S2002	full	3.14	2.57	82
rural	outside	south	S2002	full	3.28	2.75	84
rural	outside	south	S2002	full	2.74	2.34	85
rural	outside	south	F2002	zero	5.13	2.48	48
rural	outside	south	F2002	zero	8.67	1.36	16
rural	outside	south	F2002	zero	4.56	3.04	67
rural	outside	south	F2002	zero	3.61	2.22	61
rural	outside	south	F2002	zero	4.31	2.07	48
rural	outside	south	F2002	zero	4.53	1.92	42
rural	outside	south	F2002	zero	9.99	1.12	11
rural	outside	south	F2002	zero	8.50	0.90	11
rural	outside	south	F2002	zero	6.32	0.89	14
rural	outside	south	F2002	zero			
rural	outside	south	F2002	zero	4.60	0.71	15
rural	outside	south	F2002	zero	2.85	2.07	73
rural	outside	south	F2002	zero	2.80	2.67	95
rural	outside	south	F2002	zero	4.33	1.45	33
rural	outside	south	F2002	zero	3.83	0.74	19
rural	outside	south	F2002	zero	3.24	1.86	57
rural	outside	south	F2002	zero	4.14	0.88	21
rural	outside	south	F2002	zero	3.47	1.09	31
rural	outside	south	F2002	zero	3.48	1.35	39
rural	outside	south	F2002	zero	2.74	1.87	68
rural	outside	south	F2002	three	3.39	1.85	55
rural	outside	south	F2002	three	2.55	2.27	89
rural	outside	south	F2002	three	2.52	2.27	90
rural	outside	south	F2002	three	2.46	2.16	88
rural	outside	south	F2002	three	2.32	2.12	91
rural	outside	south	F2002	three	2.32	1.98	85
rural	outside	south	F2002	three	2.59	2.40	93
rural	outside	south	F2002	three	2.96	2.52	85
rural	outside	south	F2002	three	2.89	2.48	86
rural	outside	south	F2002	three	2.78	2.24	81
rural	outside	south	F2002	three	2.34	1.95	83
rural	outside	south	F2002	three	2.39	2.27	95
rural	outside	south	F2002	three	2.83	2.59	92
rural	outside	south	F2002	three	3.21	2.72	85
rural	outside	south	F2002	three	3.13	2.30	73
rural	outside	south	F2002	three	3.58	2.26	63
rural	outside	south	F2002	three	3.45	2.32	67
rural	outside	south	F2002	three	2.98	2.67	90
rural	outside	south	F2002	three	3.80	2.44	64
rural	outside	south	F2002	three	3.37	2.46	73
rural	outside	south	F2002	four	3.37	2.70	80
rural	outside	south	F2002	four	3.22	2.75	85
rural	outside	south	F2002	four	3.36	2.63	78
rural	outside	south	F2002	four	3.79	2.77	73
rural	outside	south	F2002	four	3.57	2.69	75
rural	outside	south	F2002	four	3.19	2.74	86
rural	outside	south	F2002	four	3.47	2.33	67
rural	outside	south	F2002	four	3.11	2.52	81
rural	outside	south	F2002	four	2.78	2.29	82
rural	outside	south	F2002	four	3.33	2.22	67

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	south	F2002	four	2.85	2.39	84
rural	outside	south	F2002	four	3.10	2.17	70
rural	outside	south	F2002	four	3.15	2.12	67
rural	outside	south	F2002	four	2.74	2.29	84
rural	outside	south	F2002	four	2.67	2.18	82
rural	outside	south	F2002	four	2.78	2.37	85
rural	outside	south	F2002	four	2.93	2.09	71
rural	outside	south	F2002	four	3.41	2.15	63
rural	outside	south	F2002	four	3.28	2.72	83
rural	outside	south	F2002	four	3.39	2.43	72
rural	outside	south	F2002	full	3.49	2.73	78
rural	outside	south	F2002	full	3.08	2.64	86
rural	outside	south	F2002	full	2.60	2.12	82
rural	outside	south	F2002	full	1.52	2.24	147
rural	outside	south	F2002	full	2.41	1.48	61
rural	outside	south	F2002	full	2.81	2.07	74
rural	outside	south	F2002	full	3.01	2.50	83
rural	outside	south	F2002	full	2.90	2.62	90
rural	outside	south	F2002	full	2.04	1.77	87
rural	outside	south	F2002	full	2.15	1.87	87
rural	outside	south	F2002	full	1.40	1.22	87
rural	outside	south	F2002	full	1.86	1.36	73
rural	outside	south	F2002	full	2.20	1.72	78
rural	outside	south	F2002	full	1.81	1.62	90
rural	outside	south	F2002	full	2.52	1.92	76
rural	outside	south	F2002	full	2.68	2.37	88
rural	outside	south	F2002	full	2.58	2.23	86
rural	outside	south	F2002	full	3.08	2.68	87
rural	outside	south	F2002	full	2.44	2.13	87
rural	outside	south	F2002	full	2.54	2.08	82
rural	outside	south	S2003	zero	5.48	0.89	16
rural	outside	south	S2003	zero	5.39	0.85	16
rural	outside	south	S2003	zero	6.30	0.81	13
rural	outside	south	S2003	zero	6.47	0.79	12
rural	outside	south	S2003	zero	6.17	0.75	12
rural	outside	south	S2003	zero	6.57	0.83	13
rural	outside	south	S2003	zero	7.23	0.81	11
rural	outside	south	S2003	zero	8.15	0.89	11
rural	outside	south	S2003	zero	7.14	0.90	13
rural	outside	south	S2003	zero	5.16	1.21	23
rural	outside	south	S2003	zero	5.10	0.91	18
rural	outside	south	S2003	zero	6.09	1.38	23
rural	outside	south	S2003	zero	4.15	2.76	67
rural	outside	south	S2003	zero	6.27	0.73	12
rural	outside	south	S2003	zero	5.88	0.78	13
rural	outside	south	S2003	zero	5.29	0.89	17
rural	outside	south	S2003	zero	4.79	1.13	24
rural	outside	south	S2003	zero	4.76	0.93	20
rural	outside	south	S2003	zero	4.08	1.37	34
rural	outside	south	S2003	zero	2.76	1.60	58
rural	outside	south	S2003	three	2.77	1.56	56
rural	outside	south	S2003	three	2.19	1.86	85
rural	outside	south	S2003	three	2.23	1.98	89
rural	outside	south	S2003	three	2.07	1.92	93
rural	outside	south	S2003	three	2.20	2.07	94
rural	outside	south	S2003	three	1.86	1.68	90
rural	outside	south	S2003	three	1.96	1.83	93
rural	outside	south	S2003	three	2.41	2.00	83
rural	outside	south	S2003	three	2.30	2.02	88
rural	outside	south	S2003	three	2.81	2.06	73
rural	outside	south	S2003	three	2.94	1.94	66
rural	outside	south	S2003	three	2.46	2.17	88

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	south	S2003	three	3.17	2.59	82
rural	outside	south	S2003	three	3.05	2.66	87
rural	outside	south	S2003	three	3.66	2.40	66
rural	outside	south	S2003	three	4.18	2.39	57
rural	outside	south	S2003	three	3.68	2.57	70
rural	outside	south	S2003	three	3.87	2.65	68
rural	outside	south	S2003	three	4.60	2.78	60
rural	outside	south	S2003	three	3.59	2.79	78
rural	outside	south	S2003	four	3.21	2.73	85
rural	outside	south	S2003	four	3.03	2.55	84
rural	outside	south	S2003	four	3.04	2.63	87
rural	outside	south	S2003	four	3.84	3.03	79
rural	outside	south	S2003	four	3.64		
rural	outside	south	S2003	four	3.81	2.67	70
rural	outside	south	S2003	four	3.67	2.66	72
rural	outside	south	S2003	four	3.27	2.62	80
rural	outside	south	S2003	four	3.37	2.31	69
rural	outside	south	S2003	four	3.35	2.31	69
rural	outside	south	S2003	four	2.83	2.55	90
rural	outside	south	S2003	four	3.06	2.57	84
rural	outside	south	S2003	four	3.62	2.28	63
rural	outside	south	S2003	four	3.45	2.04	59
rural	outside	south	S2003	four	3.05	2.32	76
rural	outside	south	S2003	four	2.85	2.40	84
rural	outside	south	S2003	four	3.32	2.20	66
rural	outside	south	S2003	four	3.84	2.15	56
rural	outside	south	S2003	four	3.57		
rural	outside	south	S2003	four	3.10	2.33	75
rural	outside	south	S2003	full	3.10	2.40	77
rural	outside	south	S2003	full	2.69	0.44	16
rural	outside	south	S2003	full	2.97	2.35	79
rural	outside	south	S2003	full	2.38	2.09	88
rural	outside	south	S2003	full	2.74	2.16	79
rural	outside	south	S2003	full	3.10	2.59	84
rural	outside	south	S2003	full	3.15	2.55	81
rural	outside	south	S2003	full	3.04	2.52	83
rural	outside	south	S2003	full	2.11	1.77	84
rural	outside	south	S2003	full	2.22	1.81	82
rural	outside	south	S2003	full	1.38	1.22	88
rural	outside	south	S2003	full	2.01	1.54	77
rural	outside	south	S2003	full	2.18	1.68	77
rural	outside	south	S2003	full	1.87	1.60	86
rural	outside	south	S2003	full	2.56	1.88	73
rural	outside	south	S2003	full	2.63	2.33	89
rural	outside	south	S2003	full	2.38	2.12	89
rural	outside	south	S2003	full	2.88	2.55	89
rural	outside	south	S2003	full	2.57	2.11	82
rural	outside	south	S2003	full	2.90	2.15	74
rural	outside	north	S1999	zero	1.02	0.95	93
rural	outside	north	S1999	zero	1.15	0.99	86
rural	outside	north	S1999	zero	1.48	1.17	79
rural	outside	north	S1999	zero	1.57	1.23	78
rural	outside	north	S1999	zero	1.08	0.98	91
rural	outside	north	S1999	zero	1.04	0.96	92
rural	outside	north	S1999	zero	1.28	1.09	85
rural	outside	north	S1999	zero	1.66	1.35	81
rural	outside	north	S1999	zero	1.66	1.36	82
rural	outside	north	S1999	zero	1.34	1.13	84
rural	outside	north	S1999	zero	1.27	1.12	88
rural	outside	north	S1999	zero	2.75	2.28	83
rural	outside	north	S1999	zero	2.16	1.81	84
rural	outside	north	S1999	zero	1.39	1.22	88

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	north	S1999	zero	1.53	1.27	83
rural	outside	north	S1999	zero	2.30	1.85	80
rural	outside	north	S1999	zero	1.93	1.61	83
rural	outside	north	S1999	zero	1.97	1.66	84
rural	outside	north	S1999	zero	1.77	1.49	84
rural	outside	north	S1999	zero	2.18	1.78	82
rural	outside	north	S1999	three	1.81	1.53	85
rural	outside	north	S1999	three	1.93	1.61	83
rural	outside	north	S1999	three	2.12	1.77	83
rural	outside	north	S1999	three	1.99	1.66	83
rural	outside	north	S1999	three	2.22	1.84	83
rural	outside	north	S1999	three	1.92	1.59	83
rural	outside	north	S1999	three	2.11	1.77	84
rural	outside	north	S1999	three	2.10	1.76	84
rural	outside	north	S1999	three	1.86	1.58	85
rural	outside	north	S1999	three	1.74	1.47	84
rural	outside	north	S1999	three	1.67	1.40	84
rural	outside	north	S1999	three	1.83	1.50	82
rural	outside	north	S1999	three	1.84	1.56	85
rural	outside	north	S1999	three	1.95	1.62	83
rural	outside	north	S1999	three	1.97	1.63	83
rural	outside	north	S1999	three	1.74	1.46	84
rural	outside	north	S1999	three	1.60	1.35	84
rural	outside	north	S1999	three	1.85	1.50	81
rural	outside	north	S1999	three	1.83	1.50	82
rural	outside	north	S1999	three	1.71	1.43	84
rural	outside	north	S1999	four	2.29	1.90	83
rural	outside	north	S1999	four	2.34	1.90	81
rural	outside	north	S1999	four	1.72	1.48	86
rural	outside	north	S1999	four	1.64	1.43	87
rural	outside	north	S1999	four	2.30	1.83	80
rural	outside	north	S1999	four	1.65	1.34	81
rural	outside	north	S1999	four	1.73	1.44	83
rural	outside	north	S1999	four	1.88	1.54	82
rural	outside	north	S1999	four	1.64	1.39	85
rural	outside	north	S1999	four	1.57	1.33	85
rural	outside	north	S1999	four	2.13	1.73	81
rural	outside	north	S1999	four	1.93	1.61	83
rural	outside	north	S1999	four	2.19	1.79	82
rural	outside	north	S1999	four	1.84	1.48	80
rural	outside	north	S1999	four	1.55	1.29	83
rural	outside	north	S1999	four	1.74	1.44	83
rural	outside	north	S1999	four	2.05	1.72	84
rural	outside	north	S1999	four	2.19	1.77	81
rural	outside	north	S1999	four	2.23	1.83	82
rural	outside	north	S1999	four	1.69	1.44	85
rural	outside	north	S1999	full	1.55	1.28	83
rural	outside	north	S1999	full	1.49	1.23	83
rural	outside	north	S1999	full	1.29	1.11	86
rural	outside	north	S1999	full	1.34	1.15	86
rural	outside	north	S1999	full	1.39	1.19	86
rural	outside	north	S1999	full	1.43	1.17	82
rural	outside	north	S1999	full	1.48	1.21	82
rural	outside	north	S1999	full	1.43	1.19	83
rural	outside	north	S1999	full	1.15	1.00	87
rural	outside	north	S1999	full	1.01	0.89	88
rural	outside	north	S1999	full	1.17	0.99	85
rural	outside	north	S1999	full	1.29	1.10	85
rural	outside	north	S1999	full			
rural	outside	north	S1999	full			
rural	outside	north	S1999	full			
rural	outside	north	S1999	full			

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	north	S1999	full			
rural	outside	north	S1999	full			
rural	outside	north	S1999	full			
rural	outside	north	S1999	full			
rural	outside	north	F1999	zero	5.74	4.68	82
rural	outside	north	F1999	zero	3.58	2.84	79
rural	outside	north	F1999	zero	3.96	3.17	80
rural	outside	north	F1999	zero	4.78	3.84	80
rural	outside	north	F1999	zero	4.05	3.17	78
rural	outside	north	F1999	zero		2.40	
rural	outside	north	F1999	zero	2.94	2.35	80
rural	outside	north	F1999	zero	3.18	2.60	82
rural	outside	north	F1999	zero	3.55	2.90	82
rural	outside	north	F1999	zero	2.68	2.15	80
rural	outside	north	F1999	zero	3.34	2.78	83
rural	outside	north	F1999	zero	5.15	4.32	84
rural	outside	north	F1999	zero	5.43	4.58	84
rural	outside	north	F1999	zero	4.85	4.01	83
rural	outside	north	F1999	zero	2.97	2.43	82
rural	outside	north	F1999	zero	4.19	3.42	82
rural	outside	north	F1999	zero	3.22	2.59	80
rural	outside	north	F1999	zero	3.06	2.52	82
rural	outside	north	F1999	zero	2.41	1.98	82
rural	outside	north	F1999	zero	3.14	2.57	82
rural	outside	north	F1999	three	2.65	2.19	83
rural	outside	north	F1999	three	2.61	2.16	83
rural	outside	north	F1999	three	2.49	2.07	83
rural	outside	north	F1999	three	2.47	2.03	82
rural	outside	north	F1999	three	2.39	2.00	84
rural	outside	north	F1999	three	2.47	2.04	83
rural	outside	north	F1999	three	2.90	2.44	84
rural	outside	north	F1999	three	2.19	1.89	86
rural	outside	north	F1999	three	2.59	2.12	82
rural	outside	north	F1999	three	2.59	2.09	81
rural	outside	north	F1999	three	2.20	1.83	83
rural	outside	north	F1999	three	2.29	1.88	82
rural	outside	north	F1999	three	2.28	1.90	83
rural	outside	north	F1999	three	2.31	1.90	82
rural	outside	north	F1999	three	2.67	2.17	81
rural	outside	north	F1999	three	2.32	1.90	82
rural	outside	north	F1999	three	2.42	1.97	81
rural	outside	north	F1999	three	2.22	1.81	82
rural	outside	north	F1999	three	2.71	2.20	81
rural	outside	north	F1999	three	2.76	2.31	84
rural	outside	north	F1999	four	2.61	2.25	86
rural	outside	north	F1999	four	1.91	1.65	86
rural	outside	north	F1999	four	2.38	1.89	79
rural	outside	north	F1999	four	2.06	1.70	83
rural	outside	north	F1999	four	2.46	1.99	81
rural	outside	north	F1999	four	2.62	2.14	82
rural	outside	north	F1999	four	2.71	2.21	82
rural	outside	north	F1999	four	2.24	1.91	85
rural	outside	north	F1999	four	1.90	1.63	86
rural	outside	north	F1999	four	2.59	2.21	85
rural	outside	north	F1999	four	3.30	2.86	87
rural	outside	north	F1999	four	3.37	2.83	84
rural	outside	north	F1999	four	2.60	2.19	84
rural	outside	north	F1999	four	2.44	1.98	81
rural	outside	north	F1999	four	2.91	2.40	82
rural	outside	north	F1999	four	2.07	1.80	87
rural	outside	north	F1999	four	2.74	2.32	85
rural	outside	north	F1999	four	2.33	1.98	85

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	north	F1999	four	2.20	1.88	85
rural	outside	north	F1999	four	2.75	2.28	83
rural	outside	north	F1999	full	1.78	1.45	81
rural	outside	north	F1999	full	1.45	1.23	85
rural	outside	north	F1999	full	1.51	1.25	83
rural	outside	north	F1999	full	1.65	1.31	79
rural	outside	north	F1999	full	1.71	1.41	82
rural	outside	north	F1999	full	1.86	1.46	78
rural	outside	north	F1999	full	1.50	1.20	80
rural	outside	north	F1999	full	1.41	1.17	83
rural	outside	north	F1999	full	1.33	1.09	82
rural	outside	north	F1999	full	1.08	0.92	85
rural	outside	north	F1999	full	1.38	1.11	80
rural	outside	north	F1999	full	1.60	1.28	80
rural	outside	north	F1999	full	1.80	1.43	79
rural	outside	north	F1999	full	1.50	1.18	79
rural	outside	north	F1999	full	1.69	1.37	81
rural	outside	north	F1999	full	1.29	1.11	86
rural	outside	north	F1999	full	1.70	1.34	79
rural	outside	north	F1999	full	1.51	1.25	83
rural	outside	north	F1999	full	1.49	1.26	85
rural	outside	north	F1999	full	1.47	1.19	81
rural	outside	north	S2000	zero	9.99	2.00	20
rural	outside	north	S2000	zero	9.45	1.76	19
rural	outside	north	S2000	zero	9.78	1.43	15
rural	outside	north	S2000	zero	8.95	1.55	17
rural	outside	north	S2000	zero	7.59	0.98	13
rural	outside	north	S2000	zero	6.06	0.85	14
rural	outside	north	S2000	zero	5.66	0.87	15
rural	outside	north	S2000	zero	6.12	0.97	16
rural	outside	north	S2000	zero	3.93	1.46	37
rural	outside	north	S2000	zero	4.71	0.73	15
rural	outside	north	S2000	zero	2.94	2.26	77
rural	outside	north	S2000	zero	8.16	1.28	16
rural	outside	north	S2000	zero	8.48	1.18	14
rural	outside	north	S2000	zero	8.07	1.13	14
rural	outside	north	S2000	zero	7.50	1.21	16
rural	outside	north	S2000	zero	7.81	1.20	15
rural	outside	north	S2000	zero	8.39	1.31	16
rural	outside	north	S2000	zero	8.07	1.57	19
rural	outside	north	S2000	zero	5.59	1.73	31
rural	outside	north	S2000	zero	6.85	1.22	18
rural	outside	north	S2000	three	3.20	2.50	78
rural	outside	north	S2000	three	2.99	2.48	83
rural	outside	north	S2000	three	2.82	2.32	82
rural	outside	north	S2000	three	2.83	2.20	78
rural	outside	north	S2000	three	3.77	2.83	75
rural	outside	north	S2000	three	2.90	2.46	85
rural	outside	north	S2000	three	3.21	2.53	79
rural	outside	north	S2000	three	3.71	2.67	72
rural	outside	north	S2000	three	3.58	2.80	78
rural	outside	north	S2000	three	3.16	2.62	83
rural	outside	north	S2000	three	3.20	2.46	77
rural	outside	north	S2000	three	2.95	2.05	69
rural	outside	north	S2000	three	3.08	2.60	84
rural	outside	north	S2000	three	2.99	2.10	70
rural	outside	north	S2000	three	2.91	1.93	66
rural	outside	north	S2000	three	3.05	2.07	68
rural	outside	north	S2000	three	3.16	2.27	72
rural	outside	north	S2000	three	3.34	2.38	71
rural	outside	north	S2000	three	3.71	2.43	65
rural	outside	north	S2000	three	3.03	2.27	75

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	north	S2000	four	3.22	2.22	69
rural	outside	north	S2000	four	2.80	1.97	70
rural	outside	north	S2000	four	3.07	1.98	64
rural	outside	north	S2000	four	2.99	2.37	79
rural	outside	north	S2000	four	2.53	2.16	85
rural	outside	north	S2000	four	3.34	2.20	66
rural	outside	north	S2000	four	3.59	2.47	69
rural	outside	north	S2000	four	3.26	2.40	74
rural	outside	north	S2000	four	3.32	2.60	78
rural	outside	north	S2000	four	3.39	2.54	75
rural	outside	north	S2000	four	3.44	2.56	74
rural	outside	north	S2000	four	3.41	2.76	81
rural	outside	north	S2000	four	3.57	2.85	80
rural	outside	north	S2000	four	3.69	2.54	69
rural	outside	north	S2000	four	4.09	3.01	74
rural	outside	north	S2000	four	3.50	2.73	78
rural	outside	north	S2000	four	3.29	2.66	81
rural	outside	north	S2000	four	3.62	2.56	71
rural	outside	north	S2000	four	4.09	3.07	75
rural	outside	north	S2000	four	4.13	2.83	69
rural	outside	north	S2000	full	2.73	1.97	72
rural	outside	north	S2000	full	2.10	1.84	88
rural	outside	north	S2000	full	2.53	1.96	77
rural	outside	north	S2000	full	2.60	2.02	78
rural	outside	north	S2000	full	2.37	1.89	80
rural	outside	north	S2000	full	2.43	1.86	77
rural	outside	north	S2000	full	1.77	1.46	82
rural	outside	north	S2000	full	1.68	1.35	80
rural	outside	north	S2000	full	1.49	1.18	79
rural	outside	north	S2000	full	1.45	1.12	77
rural	outside	north	S2000	full	1.96	1.18	60
rural	outside	north	S2000	full	1.82	1.39	76
rural	outside	north	S2000	full	1.81	1.27	70
rural	outside	north	S2000	full	1.52	1.23	81
rural	outside	north	S2000	full	1.82	1.51	83
rural	outside	north	S2000	full	1.69	1.58	93
rural	outside	north	S2000	full	1.58	1.49	94
rural	outside	north	S2000	full	1.85	1.68	91
rural	outside	north	S2000	full	2.23	1.86	83
rural	outside	north	S2000	full	1.72	1.54	90
rural	outside	north	F2000	zero	4.23	0.83	20
rural	outside	north	F2000	zero	4.05	0.72	18
rural	outside	north	F2000	zero	3.09	0.71	23
rural	outside	north	F2000	zero	3.17	0.70	22
rural	outside	north	F2000	zero	3.71	0.67	18
rural	outside	north	F2000	zero	2.58	0.65	25
rural	outside	north	F2000	zero	3.10	0.68	22
rural	outside	north	F2000	zero	3.56	0.74	21
rural	outside	north	F2000	zero	3.50	0.75	21
rural	outside	north	F2000	zero	3.18	0.78	25
rural	outside	north	F2000	zero	3.63	1.20	33
rural	outside	north	F2000	zero	6.99	1.27	18
rural	outside	north	F2000	zero	7.33	1.08	15
rural	outside	north	F2000	zero	5.03	0.95	19
rural	outside	north	F2000	zero	4.37	0.98	22
rural	outside	north	F2000	zero	5.07	1.02	20
rural	outside	north	F2000	zero	5.08	1.21	24
rural	outside	north	F2000	zero	5.68	1.45	26
rural	outside	north	F2000	zero	5.19	1.50	29
rural	outside	north	F2000	zero	5.04	1.35	27
rural	outside	north	F2000	three	2.97	1.93	65
rural	outside	north	F2000	three	2.50	1.88	75

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	north	F2000	three	2.87	1.78	62
rural	outside	north	F2000	three	2.79	1.80	65
rural	outside	north	F2000	three	3.37	2.48	74
rural	outside	north	F2000	three	2.55	2.23	87
rural	outside	north	F2000	three	3.09	2.39	77
rural	outside	north	F2000	three	3.27	2.39	73
rural	outside	north	F2000	three	3.30	2.48	75
rural	outside	north	F2000	three	3.10	2.23	72
rural	outside	north	F2000	three	2.51	1.97	78
rural	outside	north	F2000	three	2.39	1.66	69
rural	outside	north	F2000	three	2.54	1.88	74
rural	outside	north	F2000	three	2.22	1.94	87
rural	outside	north	F2000	three	2.83	1.70	60
rural	outside	north	F2000	three	3.05	1.96	64
rural	outside	north	F2000	three	2.91	2.31	79
rural	outside	north	F2000	three	2.87	2.10	73
rural	outside	north	F2000	three	3.47	1.85	53
rural	outside	north	F2000	three	3.46	1.61	47
rural	outside	north	F2000	four	2.83	2.46	87
rural	outside	north	F2000	four	3.10	2.16	70
rural	outside	north	F2000	four	3.15	2.27	72
rural	outside	north	F2000	four	3.12	2.34	75
rural	outside	north	F2000	four	2.01	1.92	96
rural	outside	north	F2000	four	3.44	2.01	58
rural	outside	north	F2000	four	3.82	2.12	55
rural	outside	north	F2000	four	2.89	2.05	71
rural	outside	north	F2000	four		2.06	
rural	outside	north	F2000	four	3.06	2.10	69
rural	outside	north	F2000	four	2.96	2.10	71
rural	outside	north	F2000	four	3.17	2.18	69
rural	outside	north	F2000	four	3.28	2.30	70
rural	outside	north	F2000	four	3.06	1.95	64
rural	outside	north	F2000	four	3.27	1.97	60
rural	outside	north	F2000	four	2.84	1.88	66
rural	outside	north	F2000	four	2.90	2.01	69
rural	outside	north	F2000	four	3.04	2.18	72
rural	outside	north	F2000	four	3.43	2.64	77
rural	outside	north	F2000	four	3.68	2.61	71
rural	outside	north	F2000	full	2.47	1.67	68
rural	outside	north	F2000	full	1.93	1.58	82
rural	outside	north	F2000	full	2.34	1.54	66
rural	outside	north	F2000	full	2.18	1.62	74
rural	outside	north	F2000	full	2.45	1.67	68
rural	outside	north	F2000	full	2.38	1.58	66
rural	outside	north	F2000	full	1.95	1.43	73
rural	outside	north	F2000	full	1.75	1.40	80
rural	outside	north	F2000	full	1.51	1.23	81
rural	outside	north	F2000	full	1.18	1.15	97
rural	outside	north	F2000	full	1.68	1.15	68
rural	outside	north	F2000	full	2.13	1.45	68
rural	outside	north	F2000	full	2.21	1.48	67
rural	outside	north	F2000	full	1.85	1.32	71
rural	outside	north	F2000	full	1.97	1.58	80
rural	outside	north	F2000	full	2.11	1.71	81
rural	outside	north	F2000	full	2.14	1.67	78
rural	outside	north	F2000	full	1.77	1.67	94
rural	outside	north	F2000	full	2.05	1.70	83
rural	outside	north	F2000	full	1.99	1.52	76
rural	outside	north	S2001	zero			
rural	outside	north	S2001	zero	8.13	1.10	14
rural	outside	north	S2001	zero	8.51	1.12	13
rural	outside	north	S2001	zero	7.39	1.04	14

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	north	S2001	zero	7.14	0.86	12
rural	outside	north	S2001	zero	5.21	0.75	14
rural	outside	north	S2001	zero	5.69	0.98	17
rural	outside	north	S2001	zero	9.00	1.03	11
rural	outside	north	S2001	zero	6.17	1.27	21
rural	outside	north	S2001	zero	3.53	2.01	57
rural	outside	north	S2001	zero	3.29	2.92	89
rural	outside	north	S2001	zero	5.43	2.39	44
rural	outside	north	S2001	zero	9.96	1.11	11
rural	outside	north	S2001	zero			
rural	outside	north	S2001	zero	6.36	0.99	16
rural	outside	north	S2001	zero	7.09	1.06	15
rural	outside	north	S2001	zero	6.97	1.21	17
rural	outside	north	S2001	zero	1.55	1.49	96
rural	outside	north	S2001	zero	7.79	1.41	18
rural	outside	north	S2001	zero	7.69	1.52	20
rural	outside	north	S2001	three	3.23	2.43	75
rural	outside	north	S2001	three	3.41	2.72	80
rural	outside	north	S2001	three	3.99	3.28	82
rural	outside	north	S2001	three	3.32	2.75	83
rural	outside	north	S2001	three	4.25	2.90	68
rural	outside	north	S2001	three	3.20	2.32	73
rural	outside	north	S2001	three	3.69	2.88	78
rural	outside	north	S2001	three	3.61	3.13	87
rural	outside	north	S2001	three	4.10	3.15	77
rural	outside	north	S2001	three	3.53	3.01	85
rural	outside	north	S2001	three	3.45	2.89	84
rural	outside	north	S2001	three	3.02	2.44	81
rural	outside	north	S2001	three	3.68	2.61	71
rural	outside	north	S2001	three	3.66	2.33	64
rural	outside	north	S2001	three	4.06	2.34	58
rural	outside	north	S2001	three	3.65	2.61	72
rural	outside	north	S2001	three	4.11	2.37	58
rural	outside	north	S2001	three	4.09	2.65	65
rural	outside	north	S2001	three	4.03	2.99	74
rural	outside	north	S2001	three	4.15	2.99	72
rural	outside	north	S2001	four	4.31	3.60	84
rural	outside	north	S2001	four	3.88	3.16	81
rural	outside	north	S2001	four	4.60	3.51	76
rural	outside	north	S2001	four	4.34	3.66	84
rural	outside	north	S2001	four	3.83	3.20	84
rural	outside	north	S2001	four	4.70	3.25	69
rural	outside	north	S2001	four	4.79	3.33	70
rural	outside	north	S2001	four	3.78	3.11	82
rural	outside	north	S2001	four	4.37	3.32	76
rural	outside	north	S2001	four	4.49	3.14	70
rural	outside	north	S2001	four	4.02	2.87	71
rural	outside	north	S2001	four	3.97	2.74	69
rural	outside	north	S2001	four	4.16	3.35	81
rural	outside	north	S2001	four	4.24	3.30	78
rural	outside	north	S2001	four	4.95	3.51	71
rural	outside	north	S2001	four	3.88	3.30	85
rural	outside	north	S2001	four	3.87	2.97	77
rural	outside	north	S2001	four	3.75	2.98	79
rural	outside	north	S2001	four	4.90	4.14	84
rural	outside	north	S2001	four	4.65	3.78	81
rural	outside	north	S2001	full	3.73	2.71	73
rural	outside	north	S2001	full	2.94	2.32	79
rural	outside	north	S2001	full	3.43	2.48	72
rural	outside	north	S2001	full	3.01	2.36	78
rural	outside	north	S2001	full	3.21	2.49	78
rural	outside	north	S2001	full	2.99	2.23	75

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	north	S2001	full	2.84	2.28	80
rural	outside	north	S2001	full	2.65	2.15	81
rural	outside	north	S2001	full	2.07	1.61	78
rural	outside	north	S2001	full	1.85	1.42	77
rural	outside	north	S2001	full	2.15	1.50	70
rural	outside	north	S2001	full	2.50	1.79	72
rural	outside	north	S2001	full	2.38	1.66	70
rural	outside	north	S2001	full	2.43	1.82	75
rural	outside	north	S2001	full			
rural	outside	north	S2001	full	2.77	2.46	89
rural	outside	north	S2001	full	2.94	2.55	87
rural	outside	north	S2001	full	3.21	2.73	85
rural	outside	north	S2001	full	3.89	3.21	83
rural	outside	north	S2001	full	2.86	2.38	83
rural	outside	north	F2001	zero	7.48	0.85	11
rural	outside	north	F2001	zero	9.29	0.88	9
rural	outside	north	F2001	zero	9.99	1.58	16
rural	outside	north	F2001	zero	8.98	0.99	11
rural	outside	north	F2001	zero	9.99	1.24	12
rural	outside	north	F2001	zero	9.99	1.36	14
rural	outside	north	F2001	zero	9.99	2.19	22
rural	outside	north	F2001	zero	9.99	3.75	38
rural	outside	north	F2001	zero	9.99	1.87	19
rural	outside	north	F2001	zero	4.62	3.91	85
rural	outside	north	F2001	zero	6.31	3.97	63
rural	outside	north	F2001	zero	9.99	2.32	23
rural	outside	north	F2001	zero	8.41	3.15	37
rural	outside	north	F2001	zero	4.76	4.38	92
rural	outside	north	F2001	zero	9.99	2.15	22
rural	outside	north	F2001	zero	4.40	3.89	88
rural	outside	north	F2001	zero	5.59	4.34	78
rural	outside	north	F2001	zero	5.03	3.45	69
rural	outside	north	F2001	zero	4.88	4.27	88
rural	outside	north	F2001	zero	3.20	2.81	88
rural	outside	north	F2001	three	2.60	2.30	88
rural	outside	north	F2001	three	2.93	2.67	91
rural	outside	north	F2001	three	2.80	2.54	91
rural	outside	north	F2001	three	2.72	2.36	87
rural	outside	north	F2001	three	2.92	2.57	88
rural	outside	north	F2001	three	2.83	2.52	89
rural	outside	north	F2001	three	2.96	2.68	91
rural	outside	north	F2001	three	3.29	3.15	96
rural	outside	north	F2001	three	3.31	3.08	93
rural	outside	north	F2001	three	3.23	2.98	92
rural	outside	north	F2001	three	3.09	2.82	91
rural	outside	north	F2001	three	3.11	2.78	89
rural	outside	north	F2001	three	4.21	3.67	87
rural	outside	north	F2001	three	3.88	3.45	89
rural	outside	north	F2001	three	3.56	3.54	99
rural	outside	north	F2001	three	3.87	3.49	90
rural	outside	north	F2001	three	3.78	3.33	88
rural	outside	north	F2001	three	3.63	3.33	92
rural	outside	north	F2001	three	3.85	3.50	91
rural	outside	north	F2001	three	4.29	4.03	94
rural	outside	north	F2001	four	4.41	4.17	95
rural	outside	north	F2001	four	4.32	4.07	94
rural	outside	north	F2001	four	4.58	4.30	94
rural	outside	north	F2001	four	5.33	4.65	87
rural	outside	north	F2001	four	4.15	4.13	100
rural	outside	north	F2001	four	5.04	4.36	87
rural	outside	north	F2001	four	4.76	4.21	88
rural	outside	north	F2001	four	4.38	4.16	95

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	north	F2001	four	5.23	4.76	91
rural	outside	north	F2001	four	4.97	4.85	98
rural	outside	north	F2001	four	5.01	4.55	91
rural	outside	north	F2001	four	5.00	4.48	90
rural	outside	north	F2001	four	4.98	4.62	93
rural	outside	north	F2001	four	4.65	4.11	88
rural	outside	north	F2001	four	5.13	4.59	89
rural	outside	north	F2001	four	5.47	4.91	90
rural	outside	north	F2001	four	5.38	4.72	88
rural	outside	north	F2001	four	5.17	4.56	88
rural	outside	north	F2001	four	6.16	5.58	91
rural	outside	north	F2001	four	5.35	4.99	93
rural	outside	north	F2001	full	3.07	2.90	94
rural	outside	north	F2001	full	2.83	2.79	99
rural	outside	north	F2001	full	3.52	3.19	91
rural	outside	north	F2001	full	2.96	2.80	95
rural	outside	north	F2001	full	2.87	2.53	88
rural	outside	north	F2001	full	2.73	2.49	91
rural	outside	north	F2001	full	2.83	2.58	91
rural	outside	north	F2001	full	2.78	2.52	91
rural	outside	north	F2001	full	1.81	1.58	87
rural	outside	north	F2001	full	1.55	1.46	94
rural	outside	north	F2001	full	2.18	1.65	76
rural	outside	north	F2001	full	2.05	1.78	87
rural	outside	north	F2001	full	2.24	1.68	75
rural	outside	north	F2001	full	2.01	1.77	88
rural	outside	north	F2001	full	3.12	3.03	97
rural	outside	north	F2001	full	2.62	2.52	96
rural	outside	north	F2001	full	2.68	2.54	95
rural	outside	north	F2001	full	2.73	2.47	90
rural	outside	north	F2001	full	2.88	2.53	88
rural	outside	north	F2001	full	2.50	2.29	92
rural	outside	north	S2002	zero	5.87	0.92	16
rural	outside	north	S2002	zero	6.60	0.97	15
rural	outside	north	S2002	zero	4.18	2.24	54
rural	outside	north	S2002	zero	3.73	2.52	68
rural	outside	north	S2002	zero	7.10	0.90	13
rural	outside	north	S2002	zero	4.07	2.42	59
rural	outside	north	S2002	zero	4.10	3.05	74
rural	outside	north	S2002	zero	5.06	2.95	58
rural	outside	north	S2002	zero	4.70	3.44	73
rural	outside	north	S2002	zero	6.76	0.97	14
rural	outside	north	S2002	zero	3.86	3.29	85
rural	outside	north	S2002	zero	8.08	2.10	26
rural	outside	north	S2002	zero	5.46	3.44	63
rural	outside	north	S2002	zero	4.98	3.30	66
rural	outside	north	S2002	zero	7.10	1.04	15
rural	outside	north	S2002	zero	6.17	1.57	25
rural	outside	north	S2002	zero	4.22	3.29	78
rural	outside	north	S2002	zero	4.96	3.08	62
rural	outside	north	S2002	zero	8.11	1.66	20
rural	outside	north	S2002	zero	3.85	3.26	85
rural	outside	north	S2002	three	3.23	2.91	90
rural	outside	north	S2002	three	3.14	2.93	93
rural	outside	north	S2002	three	3.12	2.66	85
rural	outside	north	S2002	three	2.62	2.34	89
rural	outside	north	S2002	three	3.68	2.93	80
rural	outside	north	S2002	three	2.90	2.27	78
rural	outside	north	S2002	three	3.47	2.60	75
rural	outside	north	S2002	three	3.29	2.75	84
rural	outside	north	S2002	three	3.89	2.69	69
rural	outside	north	S2002	three	3.33	2.58	77

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	north	S2002	three	3.62	2.44	67
rural	outside	north	S2002	three	3.02	2.11	70
rural	outside	north	S2002	three	3.35	2.91	87
rural	outside	north	S2002	three	3.64	2.45	67
rural	outside	north	S2002	three	4.42	1.97	45
rural	outside	north	S2002	three	3.30	2.13	65
rural	outside	north	S2002	three	3.84	2.29	60
rural	outside	north	S2002	three	4.10	2.83	69
rural	outside	north	S2002	three		2.63	
rural	outside	north	S2002	three	4.82	2.71	56
rural	outside	north	S2002	four	4.86	3.25	67
rural	outside	north	S2002	four	3.54	2.94	83
rural	outside	north	S2002	four	3.88	3.31	85
rural	outside	north	S2002	four	4.71	3.24	69
rural	outside	north	S2002	four	4.35	2.79	64
rural	outside	north	S2002	four	5.03	2.66	53
rural	outside	north	S2002	four	4.39	3.57	81
rural	outside	north	S2002	four	4.79	2.94	61
rural	outside	north	S2002	four	4.31	3.14	73
rural	outside	north	S2002	four	4.79	2.68	56
rural	outside	north	S2002	four	3.81	2.72	71
rural	outside	north	S2002	four			
rural	outside	north	S2002	four	3.87	3.42	88
rural	outside	north	S2002	four	3.61	2.79	77
rural	outside	north	S2002	four	3.90	3.33	85
rural	outside	north	S2002	four	4.42	3.04	69
rural	outside	north	S2002	four	4.19	2.90	69
rural	outside	north	S2002	four	4.80	2.88	60
rural	outside	north	S2002	four	5.11	3.61	71
rural	outside	north	S2002	four	4.49	3.41	76
rural	outside	north	S2002	full	3.37	2.32	69
rural	outside	north	S2002	full	2.93	2.38	81
rural	outside	north	S2002	full	3.16	2.18	69
rural	outside	north	S2002	full	2.81	2.34	83
rural	outside	north	S2002	full	3.27	2.41	74
rural	outside	north	S2002	full	2.74	2.18	80
rural	outside	north	S2002	full	2.61	1.90	73
rural	outside	north	S2002	full	2.44	1.81	74
rural	outside	north	S2002	full	1.82	1.35	74
rural	outside	north	S2002	full	1.75	1.20	69
rural	outside	north	S2002	full	2.03	1.28	63
rural	outside	north	S2002	full	1.80	1.42	79
rural	outside	north	S2002	full	1.65	1.27	77
rural	outside	north	S2002	full	1.91	1.60	84
rural	outside	north	S2002	full	2.02	1.71	85
rural	outside	north	S2002	full	2.13	1.94	91
rural	outside	north	S2002	full	1.98	1.73	87
rural	outside	north	S2002	full	2.47	2.09	85
rural	outside	north	S2002	full	2.86	2.59	91
rural	outside	north	S2002	full	2.52	2.31	92
rural	outside	north	F2002	zero	6.30	0.73	12
rural	outside	north	F2002	zero	5.96	0.66	11
rural	outside	north	F2002	zero	3.16	2.31	73
rural	outside	north	F2002	zero	6.07	0.61	10
rural	outside	north	F2002	zero	5.94	0.60	10
rural	outside	north	F2002	zero	2.97	2.40	81
rural	outside	north	F2002	zero	4.04	1.83	45
rural	outside	north	F2002	zero	3.13	2.58	82
rural	outside	north	F2002	zero	4.34	3.48	80
rural	outside	north	F2002	zero	2.96	2.35	79
rural	outside	north	F2002	zero	4.25	2.60	61
rural	outside	north	F2002	zero	5.43	4.43	82

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	north	F2002	zero	7.69	0.78	10
rural	outside	north	F2002	zero	5.25	1.22	23
rural	outside	north	F2002	zero	5.49	0.82	15
rural	outside	north	F2002	zero	4.01	1.57	39
rural	outside	north	F2002	zero	6.05	0.99	16
rural	outside	north	F2002	zero	6.81	1.32	19
rural	outside	north	F2002	zero	7.66	1.39	18
rural	outside	north	F2002	zero	6.84	1.49	22
rural	outside	north	F2002	three	2.94	2.65	90
rural	outside	north	F2002	three	3.02	2.64	87
rural	outside	north	F2002	three	3.23	2.64	82
rural	outside	north	F2002	three	3.23	2.80	87
rural	outside	north	F2002	three	3.65	3.13	86
rural	outside	north	F2002	three	3.25	2.96	91
rural	outside	north	F2002	three	3.33	2.85	86
rural	outside	north	F2002	three	3.14	2.43	77
rural	outside	north	F2002	three	3.85	3.02	78
rural	outside	north	F2002	three	3.06	2.64	86
rural	outside	north	F2002	three	3.66	2.56	70
rural	outside	north	F2002	three	3.22	2.26	70
rural	outside	north	F2002	three	4.26	2.28	54
rural	outside	north	F2002	three	3.78	2.42	64
rural	outside	north	F2002	three	3.79	3.23	85
rural	outside	north	F2002	three	3.89	2.40	62
rural	outside	north	F2002	three	4.23	2.50	59
rural	outside	north	F2002	three	5.56	2.53	46
rural	outside	north	F2002	three	3.53	2.50	71
rural	outside	north	F2002	three	3.61	3.08	85
rural	outside	north	F2002	four	3.93	3.55	90
rural	outside	north	F2002	four	3.75	3.19	85
rural	outside	north	F2002	four	3.44	3.17	92
rural	outside	north	F2002	four	3.35	2.79	83
rural	outside	north	F2002	four	3.31	2.51	76
rural	outside	north	F2002	four	3.90	2.24	57
rural	outside	north	F2002	four	4.74	2.82	59
rural	outside	north	F2002	four	4.42	3.24	73
rural	outside	north	F2002	four	5.45	3.38	62
rural	outside	north	F2002	four	3.82	3.18	83
rural	outside	north	F2002	four	4.38	3.06	70
rural	outside	north	F2002	four	4.66	2.62	56
rural	outside	north	F2002	four	4.20		
rural	outside	north	F2002	four			
rural	outside	north	F2002	four	3.56	2.92	82
rural	outside	north	F2002	four	3.54	3.09	87
rural	outside	north	F2002	four	4.41	2.62	59
rural	outside	north	F2002	four	4.86	3.05	63
rural	outside	north	F2002	four	5.21	3.40	65
rural	outside	north	F2002	four	4.27	2.54	59
rural	outside	north	F2002	full			
rural	outside	north	F2002	full	2.75	2.34	85
rural	outside	north	F2002	full	4.40	2.34	53
rural	outside	north	F2002	full	2.96	2.44	82
rural	outside	north	F2002	full	2.98	2.33	78
rural	outside	north	F2002	full	3.47	2.01	58
rural	outside	north	F2002	full	0.61	1.92	315
rural	outside	north	F2002	full	0.26	1.70	654
rural	outside	north	F2002	full	1.88	1.38	73
rural	outside	north	F2002	full	1.74	1.29	74
rural	outside	north	F2002	full	2.11	1.35	64
rural	outside	north	F2002	full	1.87	1.57	84
rural	outside	north	F2002	full	2.78	1.88	68
rural	outside	north	F2002	full	2.51	1.83	73

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	north	F2002	full	2.40	2.08	87
rural	outside	north	F2002	full	2.50	2.09	84
rural	outside	north	F2002	full	2.39	2.03	85
rural	outside	north	F2002	full	2.36	1.99	84
rural	outside	north	F2002	full	3.12	2.39	77
rural	outside	north	F2002	full	2.53	2.10	83
rural	outside	north	S2003	zero	5.58	0.87	16
rural	outside	north	S2003	zero	5.77	0.77	13
rural	outside	north	S2003	zero	6.26	0.80	13
rural	outside	north	S2003	zero	6.45	0.81	13
rural	outside	north	S2003	zero	8.42	0.89	11
rural	outside	north	S2003	zero	6.07	0.92	15
rural	outside	north	S2003	zero	7.48	0.92	12
rural	outside	north	S2003	zero	8.61	0.96	11
rural	outside	north	S2003	zero	8.60	1.15	13
rural	outside	north	S2003	zero	7.26	1.20	17
rural	outside	north	S2003	zero	3.36	3.01	90
rural	outside	north	S2003	zero	8.76	1.17	13
rural	outside	north	S2003	zero	6.88	0.93	14
rural	outside	north	S2003	zero	6.07	0.84	14
rural	outside	north	S2003	zero	5.38	0.86	16
rural	outside	north	S2003	zero	5.22	0.97	19
rural	outside	north	S2003	zero	4.77	1.28	27
rural	outside	north	S2003	zero	3.41	2.32	68
rural	outside	north	S2003	zero	5.68	1.25	22
rural	outside	north	S2003	zero	5.50	1.47	27
rural	outside	north	S2003	three	3.19	2.63	82
rural	outside	north	S2003	three	3.13	2.52	81
rural	outside	north	S2003	three	3.01	2.49	83
rural	outside	north	S2003	three	2.76	2.12	77
rural	outside	north	S2003	three	3.28	2.55	78
rural	outside	north	S2003	three	2.73	2.17	79
rural	outside	north	S2003	three	3.24	2.17	67
rural	outside	north	S2003	three	3.40	2.45	72
rural	outside	north	S2003	three	3.33	2.24	67
rural	outside	north	S2003	three	3.08	2.14	69
rural	outside	north	S2003	three	3.23	1.95	60
rural	outside	north	S2003	three	2.81	1.79	64
rural	outside	north	S2003	three	3.46	1.90	55
rural	outside	north	S2003	three	3.57	1.89	53
rural	outside	north	S2003	three	4.01	1.50	37
rural	outside	north	S2003	three	3.56	1.93	54
rural	outside	north	S2003	three	3.99	1.86	47
rural	outside	north	S2003	three	4.13	1.93	47
rural	outside	north	S2003	three	3.77	1.91	51
rural	outside	north	S2003	three	4.20	1.83	44
rural	outside	north	S2003	four	3.76	2.32	62
rural	outside	north	S2003	four	2.70	2.21	82
rural	outside	north	S2003	four	2.99	2.22	74
rural	outside	north	S2003	four	3.97	2.30	58
rural	outside	north	S2003	four	3.91	2.32	59
rural	outside	north	S2003	four	4.19	1.85	44
rural	outside	north	S2003	four	3.70	2.22	60
rural	outside	north	S2003	four	4.67	2.43	52
rural	outside	north	S2003	four	4.36	2.28	52
rural	outside	north	S2003	four	4.51	1.89	42
rural	outside	north	S2003	four	3.90	2.14	55
rural	outside	north	S2003	four	4.01	2.01	50
rural	outside	north	S2003	four	4.60	2.34	51
rural	outside	north	S2003	four	4.51	1.77	39
rural	outside	north	S2003	four	5.23	2.42	46
rural	outside	north	S2003	four	4.36	2.74	63

UorR	Side	Direction	Year	Number of Dowels	Sensor 1 Deflection (mils)	Sensor 2 Deflection (mils)	Load Transfer (%)
rural	outside	north	S2003	four	3.57	2.12	59
rural	outside	north	S2003	four	4.14	1.92	46
rural	outside	north	S2003	four	5.08	3.70	73
rural	outside	north	S2003	four	3.83	2.92	76
rural	outside	north	S2003	full	3.33	2.14	64
rural	outside	north	S2003	full	0.59	2.08	353
rural	outside	north	S2003	full	3.63	2.01	55
rural	outside	north	S2003	full	3.04	2.08	68
rural	outside	north	S2003	full	2.87	2.00	70
rural	outside	north	S2003	full	2.56	1.71	67
rural	outside	north	S2003	full	2.44	1.64	67
rural	outside	north	S2003	full	2.21	1.56	71
rural	outside	north	S2003	full	1.71	1.18	69
rural	outside	north	S2003	full	1.60	1.12	70
rural	outside	north	S2003	full	1.70	1.12	66
rural	outside	north	S2003	full	1.77	1.35	76
rural	outside	north	S2003	full	1.81	1.14	63
rural	outside	north	S2003	full	2.16	1.42	66
rural	outside	north	S2003	full	2.00	1.43	72
rural	outside	north	S2003	full	1.78	1.47	83
rural	outside	north	S2003	full	1.72	1.29	75
rural	outside	north	S2003	full	1.71	1.39	81
rural	outside	north	S2003	full	2.25	1.83	81
rural	outside	north	S2003	full	2.04	1.58	77

Table B.8. Load Transfer Efficiency: Urban Site, Westbound Lane, Inside Wheel Path

Bars	Fall 98	Spring 99	Fall 99	Spring 00	Fall 00	Spring 01	Fall 01	Spring 02	Fall 02	Spring 03
zero	87.07	85.59	81.83	67.60	63.71	75.60	85.50	81.24	73.99	72.87
3	87.18	84.25	81.30	77.31	61.42	73.51	85.69	75.93	68.96	69.22
4	87.36	85.20	82.29	84.18	63.53	64.72	86.89	74.78	78.70	62.47
full basket	89.99	86.91	82.27	33.44	83.36	82.41	86.97	82.93	80.70	81.62

Table B.9. Load Transfer Efficiency: Urban Site, Westbound Lane, Outside Wheel Path

Bars	Fall 98	Spring 99	Fall 99	Spring 00	Fall 00	Spring 01	Fall 01	Spring 02	Fall 02	Spring 03
zero	87.49	83.85	88.96	79.40	67.34	79.20	88.61	83.61	74.68	71.19
3	87.94	86.41	91.13	91.98	83.85	88.14	91.80	89.20	87.51	83.63
4	88.84	87.21	91.59	93.41	88.36	87.48	91.00	88.14	84.10	84.91
full basket	89.50	85.76	90.13	93.45	87.16	87.63	90.38	77.57	82.34	84.74

Table B.10. Load Transfer Efficiency: Urban Site, Eastbound Lane, Inside Wheel Path

Bars	Fall 98	Spring 99	Fall 99	Spring 00	Fall 00	Spring 01	Fall 01	Spring 02	Fall 02	Spring 03
zero	90.18	89.38	89.82	88.38	83.38	83.49	87.78	87.22	82.93	82.89
3	88.72	87.90	87.89	76.46	55.81	74.20	78.08	73.44	70.32	76.06
4	89.55	86.73	88.08	74.39	62.67	73.08	82.40	80.70	69.31	76.88
full basket	89.71	89.78	88.77	86.42	77.45	81.99	86.99	80.96	82.45	83.04

Table B.11. Load Transfer Efficiency: Urban Site, Eastbound Lane, Outside Wheel Path

Bars	Fall 98	Spring 99	Fall 99	Spring 00	Fall 00	Spring 01	Fall 01	Spring 02	Fall 02	Spring 03
zero	90.84	89.99	90.47	88.99	86.16	88.29	87.81	86.96	83.16	83.26
3	89.57	89.72	91.16	87.44	79.97	83.39	88.90	85.15	79.14	84.31
4	90.32	91.04	92.39	88.63	85.15	85.59	88.21	82.89	86.95	85.41
full basket	90.41	87.91	91.30	91.97	88.87	89.55	89.77	86.46	78.42	85.22

Table B.12. Load Transfer Efficiency: Rural Site, Southbound Lane, Inside Wheel Path

Bars	Fall 98	Spring 99	Fall 99	Spring 00	Fall 00	Spring 01	Fall 01	Spring 02	Fall 02	Spring 03
zero	79.99	84.10	87.72	73.31	34.19	31.42	93.40	32.18	74.61	35.54
3	78.92	82.68	85.95	78.98	38.51	41.91	93.59	47.02	48.60	45.44
4	76.53	81.01	84.70	62.10	32.89	36.19	92.17	31.27	58.11	32.44
full basket	79.26	83.51	85.16	88.78	72.41	73.23	92.66	73.49	77.68	71.37

Table B.13. Load Transfer Efficiency: Rural Site, Southbound Lane, Outside Wheel Path

Bars	Fall 98	Spring 99	Fall 99	Spring 00	Fall 00	Spring 01	Fall 01	Spring 02	Fall 02	Spring 03
zero	80.70	85.37	86.70	40.76	29.00	30.63	53.89	40.42	38.59	21.17
3	n/a	83.50	86.37	86.63	76.20	70.75	93.07	84.05	81.38	78.35
4	n/a	82.67	85.16	80.08	73.39	75.56	93.73	84.26	76.80	74.93
full basket	n/a	82.13	83.68	88.07	84.66	83.75	92.43	86.57	85.51	78.79

Table B.14. Load Transfer Efficiency: Rural Site, Northbound Lane, Inside Wheel Path

Bars	Fall 98	Spring 99	Fall 99	Spring 00	Fall 00	Spring 01	Fall 01	Spring 02	Fall 02	Spring 03
zero	80.67	83.23	87.96	55.76	26.39	47.48	47.28	42.64	51.66	35.12
3	81.19	82.41	87.15	64.51	30.83	36.08	74.38	62.23	61.36	48.53
4	78.13	78.75	78.35	53.63	27.77	36.77	74.02	54.62	65.51	46.90
full basket	81.86	85.91	82.09	85.37	64.46	60.99	83.64	73.04	108.12	74.71

Table B.15. Load Transfer Efficiency: Rural Site, Northbound Lane, Outside Wheel Path

Bars	Fall 98	Spring 99	Fall 99	Spring 00	Fall 00	Spring 01	Fall 01	Spring 02	Fall 02	Spring 03
zero	n/a	84.60	81.45	20.86	22.34	26.27	44.18	48.48	39.50	22.09
3	n/a	83.45	82.59	75.58	70.57	74.23	90.84	74.02	75.79	63.33
4	n/a	82.88	83.93	74.04	70.61	77.64	91.43	67.98	72.47	57.23
full basket	n/a	84.53	81.62	80.63	76.21	74.14	90.22	78.90	113.03	84.70

Table B.16. Urban Joint Measurements

	Start Time 8:00 A.M.	Start Temp	End Time	End Temp			
	Station Number	West Bound Lane			East Bound Lane		
	9/10/1998	Joint Opening (mm)	Outside Faulting (mm)	Inside Faulting (mm)	Inside Faulting (mm)	Outside Faulting (mm)	Joint Opening (mm)
Zero Dowel Bars (W) and Full Basket of Dowel Bars (E)	72+00	257.89	-0.6			0.2	255.52
	72+20	253.64	0.6			0	253.77
	72+40	254.08	-1.1			-2	253.42
	72+60	254.75	-0.3			-0.9	251.89
	72+81	253.68	-0.1			-0.5	254.76
	73+00	253.96	0.1			-1.8	258.38
	73+21	253.12	-0.6			-0.3	253.35
	73+42	253.72	-0.2			0.2	254.57
	73+60	254.33	-0.3			-1.5	255.84
	73+80	nn	-0.7			1.9	255.85
Three Dowel Bars	74+00	253.77	-0.5			0.2	252.78
	74+20	254.46	0.2			-1.3	252.68
	74+40	256.40	0			-1.4	255.35
	74+60	255.66	0.5			-0.6	257.23
	74+80	253.64	-1.1			0.5	256.98
	75+00	258.75	0.1			0.2	253.92
	75+20	252.03	-0.2			1	254.57
	75+40	254.39	-0.6			-0.9	256.03
	75+60	255.18	-0.3			-0.6	258.01
	75+80	254.34	-0.7			0.5	255.32
	76+00	253.62	-0.5			-0.8	254.55
Four Dowel Bars	76+20	255.78	0.1			-0.5	251.93
	76+40	255.07	-0.6			0.2	253.19
	76+60	254.06	-0.5			-1.3	257.14
	76+80	254.08	-0.3			-0.8	255.38
	77+00	254.65	0.4			0.1	255.42
	77+20	252.13	-0.3			-0.8	253.81
	77+40	252.17	-1.4			0.2	257.63
	77+60	256.65	0.1			-1.4	259.59
	77+80	254.15	-1.7			1.1	257.18
	78+00	255.03	-0.6			-1.5	255.84
Full Basket of Dowel Bars	78+17	253.81	-1.9			0	255.40
	78+32	255.09	0.2			-1.5	256.36
	78+53	254.97	-1.2			-0.2	255.26
	78+73	253.90	-0.2			-0.1	255.80
	78+93	271.15	0.3			-2.3	254.81
	79+20	255.24	0.8			-1.5	257.82
	79+40	252.78	-0.6			-0.9	257.59
	79+61	253.61	1.2			-0.8	255.70
	79+81	253.44	0.3			-0.2	256.04
	80+02	253.31	0			-0.8	256.51
		end					

	Start Time	Start Temp	End Time	End Temp				
	6:15	54	11:00	60				
	Station Number	West Bound Lane			East Bound Lane			
	9/22/1998	Joint Opening	Outside Faulting (mm)	Inside Faulting (mm)	Inside Faulting (mm)	Outside Faulting (mm)	Joint Opening	
Zero Dowel Bars (W) and Full Basket of Dowel Bars (E)	72+00	257.71	-0.3			0.3	255.25	
	72+20	254.41	-0.5			0.2	254.4	
	72+40	254.46	-0.8			-0.9	254.38	
	72+60	254.42	0			-0.3	252.34	
	72+81	253.57	-0.2			-1	255.16	
	73+00	253.57	-0.3			-0.9	258.11	
	73+21	252.68	0.4			0.2	253.77	
	73+42	252.65	0.5			0.2	254.43	
	73+60	252.81	-0.4			-0.9	257.39	
	73+80	nn	0			1.1	255.62	
Three Dowel Bars	74+00	252.4	0			-0.4	252.28	
	74+20	253.97	1.2			-1.3	252.17	
	74+40	256.27	1			0	256.25	
	74+60	254.44	0.2			0.2	257.02	
	74+80	252.52	0.5			0.7	256.96	
	75+00	257.48	0.7			-0.1	253.67	
	75+20	251.08	-0.2			0.5	254.03	
	75+40	253.76	-0.4			0	255.71	
	75+60	253.73	0.7			-0.1	256.86	
	75+80	254.24	0.1			0.1	254.94	
	76+00	252.97	0.7			-0.3	254.53	
Four Dowel Bars	76+20	254.76	-0.3			0.4	252.04	
	76+40	254.82	-0.7			1.9	253.23	
	76+60	252.97	-0.5			-0.5	257.17	
	76+80	253.24	-0.5			-0.8	255.37	
	77+00	253.24	-0.2			0.8	255.41	
	77+20	251.93	0.1			-0.5	254.09	
	77+40	251.37	1.4			0.9	257.02	
	77+60	255.3	0.6			-0.9	257.96	
	77+80	253.6	-1			-0.5	257.2	
	78+00	253.6	0.6			-0.6	255.71	
Full Basket of Dowel Bars	78+17	252.87	-2.3			-0.5	254.91	
	78+32	254.74	0.5			-1.7	256.88	
	78+53	253.84	0.4			-0.1	255.25	
	78+73	253	-1.4			-1.2	255.83	
	78+93	253.4	-0.4			0.6	254.45	
	79+20	254.77	0.2			0.2	257.5	
	79+40	252.6	0.1			1.2	257.34	
	79+61	254.3	0.7			0.2	255.48	
	79+81	253.98	0.3			0	256.13	
	80+02	253.51	-0.2			-1	256.78	
		end						

	Start Time	Start Temp	End Time	End Temp				
	12:05	79-68@1:30	3:30	67				
			West Bound Lane			East Bound Lane		
	Station Number		Outside Faulting	Inside Faulting	Inside Faulting	Outside Faulting	Joint	
	5/10/1999	Joint Opening	(mm)	(mm)	(mm)	(mm)	Opening	
Zero Dowel Bars (W) and Full Basket of Dowel Bars (E)	72+00	256.16	-0.3	-0.8	-0.5	-0.5	250.84	
	72+20	253.06	-0.1	0	0.5	0.7	253.19	
	72+40	253.46	-1.6	-2.1	-1.3	-2	254.58	
	72+60	254.36	-0.4	-0.5	-1.1	-1.1	252.13	
	72+81	251.95	0	-1.4	0.2	-0.8	253.78	
	73+00	253.21	-0.2	-1	-0.6	-1.6	256.02	
	73+21	251.9	0.1	-0.6	-0.7	-0.3	254.94	
	73+42	251.26	-0.5	-0.5	-1.4	0.4	249.98	
	73+60	252.75	-0.7	-0.5	-1.4	-0.6	257.61	
	73+80	nn	-0.8	-0.4	-2	0.4	254.21	
Three Dowel Bars	74+00	252.11	0.5	0	-0.5	-0.4	254.9	
	74+20	252.28	0	-0.8	-0.2	-0.5	251.64	
	74+40	255.48	0.5	0.2	-0.3	-0.8	252.46	
	74+60	254.86	-0.3	0.7	0.4	-0.4	257.05	
	74+80	251.96	-1.3	-0.4	0	0	257.12	
	75+00	251.81	-0.4	-3.8	-0.2	-0.3	256	
	75+20	256.63	-0.5	-0.2	0	0.2	260.9	
	75+40	252.8	-0.8	0	0.5	-0.4	252.98	
	75+60	252.21	-0.4	-0.2	-1.5	-1	255.31	
	75+80	253.98	-1	-0.4	0	-0.8	251.27	
	76+00	251.97	-0.2	-0.8	1.5	1.2	254.48	
Four Dowel Bars	76+20	253.96	-0.8	0.1	0	-0.8	251.14	
	76+40	254.77	-0.9	1	0.5	0.2	252.77	
	76+60	252.81	-0.9	-1.6	-0.3	-1	255.56	
	76+80	252	-0.5	0.6	1	-1.1	250.24	
	77+00	253.36	0	0.6	0.7	-0.4	254.79	
	77+20	248.55	-0.6	-0.8	-0.6	-1.2	251.7	
	77+40	251.41	-0.7	0.5	0.3	-0.3	258.35	
	77+60	254.5	-0.6	0.4	0.4	-2.3	257.77	
	77+80	253.45	-1.3	1	-1.9	-1.5	257.48	
	78+00	253.34	0	0.1	-0.5	-0.8	254.68	
Full Basket of Dowel Bars	78+17	252.52	-1	-0.9	0.1	0.5	255.09	
	78+32	254.77	-0.9	1.7	-0.5	-1.3	255.3	
	78+53	252.69	0	-0.9	-1.1	-0.8	254.36	
	78+73	251.6	-0.4	-0.6	-0.4	0	254.86	
	78+93	254.01	-0.2	0.5	-0.9	-1.5	254.12	
	79+20	254.62	-0.5	0.7	-2.5	-0.2	254.51	
	79+40	251.97	0.1	0.5	-0.8	-0.5	256.21	
	79+61	253.57	-0.2	-0.7	-1.9	-0.5	255.07	
	79+81	253.17	0.5	1.4	0.2	0.3	255.22	
	80+02	252.2	-0.3	0	0	-0.3	255.14	
		end						

	Start Time	Start Temp	End Time	End Temp				
	12:06	34	1:35	51				
			West Bound Lane			East Bound Lane		
	Station Number		Outside Faulting	Inside Faulting	Inside Faulting	Outside Faulting	Joint	
	10/5/1999	Joint Opening	(mm)	(mm)	(mm)	(mm)	Opening	
Zero Dowel Bars (W) and Full Basket of Dowel Bars (E)	72+00	255.55	-0.7	-1.1	-0.3	-0.9	256.6	
	72+20	253.7	-0.4	-0.3	-0.3	-1.3	253.95	
	72+40	253.63	-1	-0.7	-1.8	-1.8	253.05	
	72+60	255.07	-1.4	-1.5	-1.3	-2.4	252.68	
	72+81	252.08	0.2	-0.1	0.2	1.1	253.8	
	73+00	252.85	-0.3	-1.1	-1.3	-1.8	258.66	
	73+21	252.56	0.2	-0.3	-0.8	2.3	253.41	
	73+42	252.58	-0.3	0	-1.2	-2	253.45	
	73+60	253.65	-0.4	-0.4	-2.9	-0.4	255.7	
	73+80	---------	0.5	0	-2	-0.5	253.9	
Three Dowel Bars	74+00	252.6	0.2	0.2	-1.2	-0.8	252.65	
	74+20	252.61	0	-0.6	0	-2	252.06	
	74+40	254.68	0.2	0.3	-0.8	-1	254.5	
	74+60	254.69	-1.1	0	0	-0.5	257.54	
	74+80	251.65	-0.8	0	-0.3	-0.8	255.37	
	75+00	256.39	-0.4	-3.6	-0.9	0.5	254.1	
	75+20	251.36	-0.2	0.4	-0.8	-0.8	254.07	
	75+40	253.1	-0.3	0	0.1	-0.7	256.01	
	75+60	252.41	-0.9	0.3	-1.9	-1.9	255.75	
	75+80	253.65	-0.5	0.3	-0.8	-1.9	255.15	
	76+00	252.42	-0.4	0.1	1	-1.2	254.1	
Four Dowel Bars	76+20	254.33	-0.2	-2	-0.3	-0.8	250.84	
	76+40	254.37	-0.3	0.7	-0.5	0	253.2	
	76+60	252.44	-0.6	-1	-0.2	-1.7	256.93	
	76+80	252.35	-1.9	0.5	0.4	-1.2	253.73	
	77+00	253.58	-1	0.5	0.5	-2	254.96	
	77+20	251.22	-0.6	-0.8	-1.2	-1.5	253.5	
	77+40	251.39	-0.7	1.2	0	-0.4	257.4	
	77+60	254.65	0	-0.4	0	-0.5	257.4	
	77+80	253.46	-1.5	-1.3	-0.7	-0.5	257.41	
	78+00	253.44	-0.4	0.3	-1.3	-0.8	254.35	
Full Basket of Dowel Bars	78+17	253.42	-2	-0.8	0	-0.6	255.16	
	78+32	254.36	-0.3	0.8	0	-1.7	255.86	
	78+53	252.96	0.2	-1.6	-1.6	-1	253.81	
	78+73	253.88	0.5	-0.1	-1.1	-0.8	255.87	
	78+93	252.88	-0.3	-1	-0.9	-1.3	254	
	79+20	255	-0.9	0.8	-3.8	0	257.11	
	79+40	251.96	0.2	-0.1	-1.8	-1.1	255.98	
	79+61	253.61	0	1.3	-1.1	-1.8	255.21	
	79+81	253.64	1.5	0.6	0	-1.1	255.48	
	80+02	252.69	0.3	0.5	-0.8	-0.9	255.1	
		end						

	Start Time	Start Temp	End Time	End Temp				
	9:50	83 F -part	11:05	97 F -part				
			West Bound Lane			East Bound Lane		
	Station Number		Outside Faulting	Inside Faulting	Inside Faulting	Outside Faulting	Joint	
	5/25/2000	Joint Opening	(mm)	(mm)	(mm)	(mm)	Opening	
Zero Dowel Bars (W) and Full Basket of Dowel Bars (E)	72+00	255.6	-0.3	-0.8	-1.1	-0.8	252.6	
	72+20	254.2	-1.3	-0.7	-0.7	-0.1	254	
	72+40	253.5	-2	-0.9	-1.6	-2.5	255.6	
	72+60	255.7	-0.4	-1.5	-1.5	-0.8	255.7	
	72+81	252.3	-0.5	-1.4	-0.6	-1	254.3	
	73+00	254	-0.5	-0.7	-0.5	-1	253	
	73+21	252.5	-0.6	0	-0.1	0.5	253.1	
	73+42	252.5	-0.8	-0.5	-1.5	0	253.2	
	73+60	253.7	-0.9	-0.7	-1.5	-1	255.2	
	73+80	-	-0.6	-0.1	-1.5	0	253.6	
Three Dowel Bars	74+00	252.3	-0.7	0.2	-0.3	0.1	252.3	
	74+20	252.6	-0.5	-0.8	0.1	-1.2	253.4	
	74+40	255	0.4	-0.3	-0.3	-1	251.8	
	74+60	255	-0.3	-0.2	-0.3	-0.4	256.9	
	74+80	251.3	-1.4	0.1	0.2	-0.4	255.2	
	75+00	256.7	-0.4	-3.3	-0.3	0.1	253.1	
	75+20	251	-0.8	0.2	0.4	0.5	253.2	
	75+40	253.1	-0.5	0.1	0	0.5	256.2	
	75+60	252.2	-0.3	0.2	-0.8	-0.4	254.7	
	75+80	254.5	-1.1	-1.8	-0.6	-0.2	256.1	
	76+00	252.5	-0.2	0.2	1.4	-1	254	
Four Dowel Bars	76+20	253.4	-0.2	-0.6	0	-0.5	250.3	
	76+40	254.1	-1.1	1	0.1	0.5	252.9	
	76+60	253.1	-0.8	-1	-0.4	-1	256.4	
	76+80	252.1	-0.5	0.3	1	-1.3	254.3	
	77+00	254.1	0.2	0.6	0.2	0.8	254.6	
	77+20	251	-0.5	-1	-1	-0.8	253.1	
	77+40	251	-0.8	1.2	0.1	0.3	256.9	
	77+60	253.8	-0.6	0.4	0.3	-2.1	257.1	
	77+80	253.7	-1	-0.8	-0.3	0.5	257.2	
	78+00	253.2	-0.3	0.4	0.2	-0.1	254	
Full Basket of Dowel Bars	78+17	253.8	-0.9	-1.1	-0.1	0.3	254.8	
	78+32	253.9	-0.6	1.7	-1.8	-1.4	254.7	
	78+53	252.4	-0.4	-1.3	-1.1	0.2	253.7	
	78+73	252.8	-0.3	-0.5	-0.5	-0.3	254.5	
	78+93	252.9	0	0	-0.5	-1.4	253.7	
	79+20	254.7	-0.6	0.5	-4	-0.6	257.1	
	79+40	251.5	-1	-0.9	-1.4	-0.6	255.4	
	79+61	253.3	-0.4	1.3	-1.5	-0.5	254.1	
	79+81	253.3	0.4	1	0.3	-1.5	254.9	
	80+02	251.5	-0.1	-0.5	-0.3	0	254.5	
	80+12	end						

	Start Time	Start Temp	End Time	End Temp				
	12:45	81 F -part	2:00	84 F -part				
			West Bound Lane			East Bound Lane		
	Station Number		Outside Faulting	Inside Faulting	Inside Faulting	Outside Faulting		
	4/24/2001	Joint Opening	(mm)	(mm)	(mm)	(mm)	Joint Opening	
Zero Dowel Bars (W) and Full Basket of Dowel Bars (E)	72+00	254.9	-0.3	-1.5	-0.9	-0.5	253.9	
	72+20	253.7	-0.6	0.3	-1.1	-0.2	252.9	
	72+40	253.8	0.2	-0.7	-1.4	-2.7	252.3	
	72+60	253.1	-0.8	-1.1	-2.3	-1.8	252.7	
	72+81	251.9	-0.4	-0.9	-0.7	-0.7	253.5	
	73+00	252.9	-0.5	-0.6	-0.5	-2.2	255.3	
	73+21	252	0	-0.4	-0.7	0	255.1	
	73+42	252	-0.6	-0.7	-1.3	-0.7	253.5	
	73+60	253.8	-0.6	-0.3	-2.7	-1.1	257.8	
	73+80	nn	-0.8	-0.2	-2.3	0	253.6	
Three Dowel Bars	74+00	252.7	-0.8	0.2	-0.7	-0.4	252.4	
	74+20	253.1	0	-0.8	0	-1.5	252.1	
	74+40	254.1	-0.4	0.3	-0.3	-1.3	254.1	
	74+60	254.7	-0.7	0	-0.5	-1.1	257.1	
	74+80	251.3	-1.5	-0.4	-0.2	-0.6	256	
	75+00	256.2	-0.5	-3.4	-0.5	-0.5	252.9	
	75+20	251.3	-0.5	0.1	-0.8	-0.2	253.4	
	75+40	252.9	-0.7	0	0.1	-0.3	256.4	
	75+60	250	-0.5	-0.3	-1.5	-1.5	256.3	
	75+80	253.8	-1.1	-0.3	-0.6	-0.8	255.3	
	76+00	252.2	-0.2	-0.5	1.1	-0.9	253.6	
Four Dowel Bars	76+20	253.3	-0.3	-0.5	-0.1	-1.1	253.4	
	76+40	252.8	-1.1	0.5	-0.8	-0.4	252.7	
	76+60	252.8	-0.9	-0.9	-0.5	-0.5	256.3	
	76+80	252.1	-0.7	0.2	0.7	-1.8	254.2	
	77+00	252.9	0	0	0.2	-1.3	254.6	
	77+20	251	-0.5	0.3	-1.4	-1.5	252.7	
	77+40	251	-0.8	-0.5	-0.3	-0.3	256.4	
	77+60	253.7	-0.5	-0.1	-0.7	-2.7	258.1	
	77+80	253.8	-1.3	0	-0.3	0.2	256.7	
	78+00	253.1	-0.6	0.5	-1.5	0.2	254.6	
Full Basket of Dowel Bars	78+17	252.9	-0.9	0.1	-0.1	0.1	254.3	
	78+32	254.1	-0.8	2.3	-3	-1.5	255.4	
	78+53	252.5	-0.5	-2	-1.7	-0.9	253.1	
	78+73	252.3	-0.8	-1	-1.2	-0.3	254.8	
	78+93	252.8	-0.5	0.5	-1.7	-1.5	253.5	
	79+20	255.1	-0.5	1.2	-3.8	-0.8	257.4	
	79+40	251.6	-0.8	0.7	-1.3	-1	255.5	
	79+61	253.4	-0.7	0.7	-1.8	-0.5	251.2	
	79+81	253.2	0.4	0.7	-0.8	-1.4	255	
	80+02	251.8	-0.3	0.7	-1.5	-0.3	254.4	
	80+12	end						

	Start Time	Start Temp	End Time	End Temp				
	10:12	85	11:06	99				
	Station Number	West Bound Lane			East Bound Lane			
	9/4/2001	Joint Opening	Outside Faulting (mm)	Inside Faulting (mm)	Inside Faulting (mm)	Outside Faulting (mm)	Joint Opening	
Zero Dowel Bars (W) and Full Basket of Dowel Bars (E)	72+00	253.2	0.2	-0.2	-0.8	-0.7	254.9	
	72+20	254.8	0.2	0.1	0.1	-0.9	253.9	
	72+40	253.8	-1.3	-1.5	-1.5	-1.6	252	
	72+60	255.4	-0.8	-1.3	-2.3	-1	252.6	
	72+81	252.1	-0.5	-1.2	0.2	-0.7	253.9	
	73+00	254.3	-0.4	-0.1	-0.5	-1.3	257.9	
	73+21	252.8	-0.1	0.1	-0.3	0.1	253.3	
	73+42	252.6	-0.6	-0.3	-1.7	0	253.7	
	73+60	254.3	-0.8	-0.5	-1.7	-0.8	256.1	
	73+80	-	-0.5	0.2	-1.7	0.2	254	
Three Dowel Bars	74+00	252.4	-0.9	0.4	0	-0.1	252.4	
	74+20	252.3	-0.3	-0.3	-0.2	-1.5	252.2	
	74+40	254	0.5	0.5	-0.1	-0.7	254.1	
	74+60	254.8	-0.8	-0.3	0	0.1	257.5	
	74+80	251.8	-0.8	0.3	0.5	0	256.1	
	75+00	256.1	-0.1	-2.7	-0.1	0.3	252.9	
	75+20	251.4	-0.5	0.2	0	0.3	253.5	
	75+40	253.1	-0.6	0.4	0.1	-0.5	256.9	
	75+60	252.1	-0.3	0.2	-1.4	-0.4	255.3	
	75+80	254.9	-1	0.4	-0.5	-0.3	256.2	
	76+00	253.1	0	0.3	1.8	-0.8	254	
Four Dowel Bars	76+20	253.8	-0.1	-0.5	0.5	-0.7	250.7	
	76+40	253.4	-1	0.7	0.2	-0.4	253.4	
	76+60	253	-0.8	-0.3	-0.3	-0.7	256.9	
	76+80	252	-0.7	0.2	0.5	-1.4	254.7	
	77+00	253.1	-0.1	0.5	0.7	-0.1	255.1	
	77+20	251	-0.6	0	-1.1	-0.8	253.5	
	77+40	251	-0.8	0	0.6	0.3	257.1	
	77+60	254.7	-0.5	-0.2	0.4	-2	254.2	
	77+80	254	-1.4	-0.4	0.5	1	256.7	
	78+00	253.1	-0.3	0.4	0.2	-0.9	254.9	
Full Basket of Dowel Bars	78+17	253	-0.8	-0.8	0.1	0.2	255.5	
	78+32	254.4	-0.2	1.6	-1.8	-0.3	256	
	78+53	252.5	-0.3	-0.9	-0.9	-0.6	253.7	
	78+73	256.1	-0.4	-0.5	-0.4	-0.4	253.3	
	78+93	253.6	0.1	0.5	0	-0.9	253.6	
	79+20	255.2	-0.8	-0.8	-3.4	-0.3	257.2	
	79+40	252.3	-1	0.2	-0.8	-0.8	255.3	
	79+61	253.7	-0.3	0	-1.8	-1.7	255.2	
	79+81	253.7	0.5	0.6	-0.9	-0.8	255.9	
	80+02	252	-0.2	-0.3	-0.7	-0.3	255.4	
	80+12	end						

	Start Time	Start Temp	End Time	End Temp			
	12:40	50	1:50	52			
		West Bound Lane			East Bound Lane		
	Station Number		Outside Faulting	Inside Faulting	Inside Faulting	Outside Faulting	
	4/20/2002	Joint Opening	(mm)	(mm)	(mm)	(mm)	Joint Opening
Zero Dowel Bars (W) and Full Basket of Dowel Bars (E)	72+00	254.9	-0.7	-2.2	-0.7	-0.5	253.2
	72+20	254.7	-0.7	-0.7	-0.3	0.6	253.8
	72+40	253.7	-0.9	-1.3	-1.1	-3	253.9
	72+60	255.2	-0.9	-1.3	-0.2	-1	252.9
	72+81	252.5	-0.5	-1.8	0	-0.8	253.4
	73+00	254.2	-0.5	-0.3	-1	-1.3	257.3
	73+21	253.4	-0.3	-0.2	-0.3	0	253.8
	73+42	253.2	-1.1	-0.4	-1.7	0	253.2
	73+60	254	-1.1	-0.4	-2	-0.9	257.2
	73+80	nn	-0.5	-0.2	-1.8	0.1	253.8
Three Dowel Bars	74+00	253.8	-0.8	-0.2	-0.7	-0.3	253.9
	74+20	253.5	-0.4	-0.7	0.2	-1.3	253.1
	74+40	255.3	0.1	-0.1	-0.3	-1	255.5
	74+60	255.2	0.1	-0.5	-0.7	-1	257.8
	74+80	251.8	-1.3	0	0.2	-0.7	256
	75+00	256.3	-0.3	-3.3	-0.3	-0.1	253.9
	75+20	251.1	-0.4	0.3	0.2	0.7	253.9
	75+40	253.5	-0.5	0.2	0.2	-0.4	256.5
	75+60	252.1	-0.5	-0.2	-1.1	-0.9	255.4
	75+80	253.5	-1	-0.4	-0.5	-1	250.1
	76+00	253.5	-0.2	-0.2	1.5	-1.1	254.3
Four Dowel Bars	76+20	253.6	-0.5	-0.3	0	-0.6	251.4
	76+40	253.6	-0.9	0	0.2	0	253.1
	76+60	253.2	-1	-1.2	-0.3	-0.8	257.1
	76+80	252.8	-0.5	0.5	0.6	-0.7	254.5
	77+00	253.4	0.5	0.9	0.9	0	254.8
	77+20	251.1	-0.5	-0.3	-1.1	-0.7	254.2
	77+40	251.1	-0.5	0	0.4	-0.2	257.1
	77+60	255	-0.5	0.5	0.2	-1.8	257.1
	77+80	254.3	-1.1	-0.3	-0.5	1	257.6
	78+00	254.3	-0.7	0.2	-0.3	-0.5	255.2
Full Basket of Dowel Bars	78+17	254	-1.3	-0.8	0.1	0.3	254.8
	78+32	254.2	-0.5	1.1	-1.9	-0.8	256.6
	78+53	253.7	-0.1	-1.2	-1	-1.3	253.4
	78+73	253.9	-0.3	-0.4	-1.3	-0.5	255.4
	78+93	253.9	-0.2	1.1	-0.5	-1.3	254.1
	79+20	256.2	-0.5	0.3	-2.6	-0.4	257.2
	79+40	252.5	-0.5	0.1	-0.5	-0.9	255.4
	79+61	254.3	-0.7	0.4	-1.3	-0.5	255.4
	79+81	254.2	0.4	1.6	0.2	-0.6	256.5
	80+02	252.1	-0.2	-0.4	-0.2	-0.2	255.9
	80+12	end					

	Start Time	Start Temp	End Time	End Temp				
	10:15	71 F	11:05	71 F				
			West Bound Lane			East Bound Lane		
	Station Number		Outside Faulting	Inside Faulting	Inside Faulting	Outside Faulting		
	10/7/2002	Joint Opening	(mm)	(mm)	(mm)	(mm)	Joint Opening	
Zero Dowel Bars	72+00	252.8	-1.0	-0.2	-0.2	-1.1	255.1	
	72+20	255.2	-1.7	0.2	0.2	-0.7	254.4	
	72+40	253.3	-2.2	-1.0	-1.0	-1.7	254.5	
	72+60	255.8	-1.3	-1.4	-1.4	-1.8	252.7	
	72+81	251.9	-0.5	-1.8	-1.8	-0.3	254.5	
	73+00	254.3	-0.9	-1.0	-1.0	-1.8	258.0	
	73+21	253.2	-0.3	-1.1	-1.1	2.0	254.4	
	73+42	252.9	-0.8	0.0	0.0	-1.7	253.9	
	73+60	254.1	-0.3	-0.3	-0.3	-0.5	257.5	
	73+80	nn	0.4	-0.2	-0.2	-0.1	254.6	
Three Dowel Bars	74+00	253.2	0.1	0.5	0.5	-0.1	253.1	
	74+20	252.9	0.0	-0.5	-0.5	-1.9	252.6	
	74+40	256.0	0.7	-0.5	-0.5	-1.2	255.5	
	74+60	255.3	-1.3	-0.1	-0.1	-0.5	257.3	
	74+80	251.8	-1.0	-0.3	-0.3	0.0	256.3	
	75+00	257.6	-1.0	-1.9	-1.9	-0.7	254.3	
	75+20	251.3	-0.5	-0.3	-0.3	-0.8	253.8	
	75+40	253.9	0.2	-1.2	-1.2	-0.6	256.9	
	75+60	252.5	-0.8	-0.8	-0.8	-1.9	255.9	
	75+80	252.7	-0.7	-0.9	-0.9	-2.1	256.5	
	76+00	253.0	-0.3	-0.7	-0.7	-1.3	254.8	
Four Dowel Bars	76+20	254.5	-0.3	-1.0	-1.0	-1.2	251.2	
	76+40	254.4	-0.5	-0.4	-0.4	-1.1	254.1	
	76+60	253.2	-1.0	0.0	0.0	-1.8	257.4	
	76+80	252.8	-1.2	0.2	0.2	-1.5	254.4	
	77+00	254.0	-1.4	0.0	0.0	-1.7	255.0	
	77+20	251.8	-0.5	0.2	0.2	-1.8	253.7	
	77+40	251.3	-1.0	-3.2	-3.2	-0.5	258.4	
	77+60	254.6	0.0	-1.0	-1.0	-3.0	258.2	
	77+80	254.0	-1.3	0.2	0.2	-0.6	258.0	
	78+00	253.9	-0.5	0.0	0.0	-1.0	255.0	
Full Basket of Dowel Bars	78+17	253.4	-1.0	-2.5	-2.5	0.1	255.1	
	78+32	254.5	-0.3	0.2	0.2	-2.0	255.8	
	78+53	253.4	-1.2	-0.8	-0.8	-1.3	254.0	
	78+73	253.6	0.6	-0.2	-0.2	-0.6	255.9	
	78+93	254.3	-0.8	-0.2	-0.2	-0.6	254.5	
	79+20	255.5	-1.0	-1.3	-1.3	-0.2	257.6	
	79+40	252.1	-0.7	0.2	0.2	-1.3	257.3	
	79+61	254.3	0.1	0.4	0.4	-1.9	256.3	
	79+81	253.9	0.5	0.9	0.9	-1.2	255.9	
	80+02	252.5	0.3	-0.7	-0.7	-0.8	255.5	
	80+12	end						

	Start Time	Start Temp	End Time	End Temp				
	14:40	85 F	15:50	82 F				
	Station Number	West Bound Lane			East Bound Lane			
	4/21/2003	Joint Opening	Outside Faulting (mm)	Inside Faulting (mm)	Inside Faulting (mm)	Outside Faulting (mm)	Joint Opening
Zero Dowel Bars	72+00	255.1	0	0	0	0	253.2
	72+20	253.2	0	0	0	0	253.8
	72+40	253.5	2	0	0	0	253.9
	72+60	255.0	0	0	0	0	252.9
	72+81	251.7	0	0	0	0	253.4
	73+00	253.0	0	0	0	1	257.3
	73+21	251.7	0	0	0	2	253.8
	73+42	251.5	0	0	0	0	253.2
	73+60	253.8	0	0	0	0	257.2
	73+80	nn	0	0	0	0	253.8
Three Dowel Bars	74+00	252.0	0	0	0	0	253.9
	74+20	252.5	0	0	0	0	253.1
	74+40	254.7	0	0	0	0	255.5
	74+60	254.7	0	0	0	0	257.8
	74+80	251.0	0	0	0	0	256.0
	75+00	256.8	0	0	0	0	253.9
	75+20	250.8	0	0	0	0	253.9
	75+40	252.3	0	0	0	0	256.5
	75+60	252.3	0	0	0	0	255.4
	75+80	252.8	0	0	0	0	250.1
	76+00	252.1	0	0	-1	0	254.3
Four Dowel Bars	76+20	253.6	0	0	0	0	251.4
	76+40	253.8	0	0	0	0	253.1
	76+60	253.3	0	0	0	0	257.1
	76+80	251.3	0	0	0	0	254.5
	77+00	253.2	1	0	0	1	254.8
	77+20	250.5	0	0	0	0	254.2
	77+40	250.8	0	0	0	0	257.1
	77+60	253.3	0	0	0	2	257.1
	77+80	253.0	0	0	0	0	257.6
	78+00	253.0	0	0	0	0	255.2
Full Basket of Dowel Bars	78+17	252.9	0	0	0	0	254.8
	78+32	254.2	0	0	0	1	256.6
	78+53	252.3	0	0	0	0	253.4
	78+73	252.5	1	0	0	0	255.4
	78+93	253.7	0	-1	0	0	254.1
	79+20	254.8	0	0	4	0	257.2
	79+40	251.8	0	-1	0	1	255.4
	79+61	252.9	0	-1	0	0	255.4
	79+81	252.4	0	0	0	1	256.5
	80+02	252.0	0	0	0	0	255.9
	80+12	end					

Table B.17. Rural Joint Measurements

	Start Time	Start Temp	End Time	End Temp			
	6:45	70	11:00				
	Station Number	West Bound Lane			East Bound Lane		
	9/1/1998	Joint Opening (mm)	Outside Faulting (mm)	Inside Faulting (mm)	Inside Faulting (mm)	Outside Faulting (mm)	Joint Opening (mm)
Zero Dowel Bars	178+00	257.1877	-0.1			1.2	258.1021
	178+20	257.71348	2.3			-0.3	258.5415
	178+40	259.04952	-0.6			0.1	257.2766
	178+60	257.29184	0.4			1	257.3884
	178+80	257.80492	1.2			-0.1	257.8887
	179+00	255.2446	1.5			1.8	256.5781
	179+20	255.01092	-0.7			-1.1	259.0495
	179+40	254.75946	-0.3			0	256.5781
	179+60	256.1463	-1.8			0.7	nn
	179+80	256.0193	0.3			0.2	256.5781
	180+00	257.2258	-0.8			-1.7	256.5781
	180+20	257.2131	-0.9			-1	256.5781
	180+40	256.5781	0.9			0	257.6347
	180+60	258.32308	-1.3			-0.1	258.6888
	180+80	257.77444	0.7			1.2	256.5781
	181+00	257.6449	0.5			-0.8	255.778
	181+20	258.7752	-0.2			-0.1	254.3175
	181+40	258.24688	-0.9			-0.3	256.0117
	181+60	257.4417	0.6			0.2	256.2606
	181+80	257.19212	-0.7			-0.8	254.1499
Three Dowel Bars	182+00	259.0546	0			0	255.7018
	182+20	259.04952	0.2			0.2	254.254
	182+40	257.19222	-1			0	256.0625
	182+60	258.07924	0.3			-1.5	255.6815
	182+80	259.04952	-0.1			-0.1	nn
	183+00	257.93192	0.2			-1.3	nn
	183+20	257.19232	0.6			1	254.6508
	183+40	nn	0.2			0.2	254.9804
	183+60	257.18806	1.6			-0.9	256.1793
	183+80	257.55092	0.9			-0.3	255.2929
	184+00	257.18864	0			0.9	255.3411
	184+20	257.18933	0.5			0.5	254.8382
	184+40	257.18935	0.5			0.9	255.651
	184+60	257.19263	0.5			0.5	254.381
	184+80	257.19532	0.5			0.5	254.1143
	185+00	257.18755	0.5			0.5	254.2921
	185+20	258.445	0.5			-0.2	255.7475
	185+40	257.19311	-0.1			-1.9	256.0828
	185+60	258.7244	0.7			0.1	254.6474
	185+80	258.1021	0.1			-1.1	254.649

	Start Time	Start Temp	End Time	End Temp				
	7:30	52 f	3:30	64 F				
			West Bound Lane			East Bound Lane		
	Station Number		Outside Faulting	Inside Faulting	Inside Faulting	Outside Faulting		
	9/21/1998	Joint Opening	(mm)	(mm)	(mm)	(mm)	Joint Opening	
	178+00	259.53	-0.3			-0.3	253.57	
	178+20	253.1	-0.3			0.1	255.16	
	178+40	255.02	0.2			0.6	253.13	
	178+60	253.54	-0.6			0.3	252.85	
	178+80	253.72	0.4			-0.7	254.04	
	179+00	256.01	-0.2			-0.3	249.28	
	179+20	253.78	0.2			-1.2	256.14	
	179+40	253.41	0.4			0	250.8	
	179+60	256.94	-0.4			-0.8	256.35	
Zero Dowel	179+80	255.21	0			0.2	251.84	
Bars	180+00	256.84	-0.9			-0.3	250.7	
	180+20	256.62	1.1			-0.1	250.8	
	180+40	251.39	0.4			0.1	253.82	
	180+60	254	1.2			-0.3	255.18	
	180+80	253.33	1.3			-0.3	250.97	
	181+00	255.89	-0.8			-0.4	255.95	
	181+20	255.65	-0.5			-0.9	252.5	
	181+40	254.09	0.4			0	254.26	
	181+60	257.55	0.1			-0.3	254.69	
	181+80	256.27	-1			0.1	251.96	
	182+00	255.28	-0.5			-1.9	254.7	
	182+20	254.89	-0.5			-0.2	251.69	
	182+40	257.47	-0.9			1.5	255.3	
	182+60	253.25	-0.3			-1.2	253.11	
	182+80	254.82	-0.7			-1	254.85	
	183+00	252.99	0			-0.8	256.2	
	183+20	255.43	1			0.4	257.56	
	183+40	nn	-0.1			1.2	253.56	
	183+60	255.55	0.5			0	254.3	
Three	183+80	252.91	1.3			0.7	254.26	
Dowel Bars	184+00	256.62	-0.4			-0.5	252.97	
	184+20	257.09	1.4			0.9	252.95	
	184+40	256.88	0.5			0.8	253.35	
	184+60	257.01	0.5			0.7	253.15	
	184+80	256.62	-0.5			1.8	251.75	
	185+00	255.33	-0.3			0.3	252.63	
	185+20	nn	0.5			-0.5	255.33	
	185+40	259.06	0			-0.5	255.27	
	185+60	254.39	-0.2			0.2	255.94	
	185+80	254.47	0.2			0.5	256.01	

	Start Time	Start Temp	End Time	End Temp			
	8:30		10:40	78 F			
			West Bound Lane		East Bound Lane		
	Station Number		Outside Faulting	Inside Faulting	Inside Faulting	Outside Faulting	Joint
	5/10/1999	Joint Opening	(mm)	(mm)	(mm)	(mm)	Opening
	178+00	256.46	-0.5	-0.3	0.3	0.2	253.41
	178+20	252.71	-0.3	-0.5	-1.3	-0.5	253.93
	178+40	254.96	-0.1	-0.3	-0.1	0.2	252.38
	178+60	252.32	-0.3	-0.6	0.2	-0.4	252.7
	178+80	253.21	-0.1	-1.8	0.2	-0.9	252.76
	179+00	255.76	0	-1.2	-0.9	-0.4	250.17
	179+20	252.46	0.2	-1.8	-0.2	-0.9	254.17
	179+40	252.03	-0.2	-1.1	-0.5	-1	249.78
	179+60	255.6	-0.8	-0.5	-1.1	-0.5	254.34
Zero Dowel	179+80	255.37	-0.2	0	-2	-0.8	251.3
Bars	180+00	255.8	-0.6	-0.5	1	0.5	250.6
	180+20	256.6	1	1.3	0.2	-0.7	249.9
	180+40	250.4	0	-0.3	-0.5	-0.9	253.7
	180+60	254.26	-0.5	-0.3	0.2	-1	254.3
	180+80	252.6	-0.3	-0.3	-0.3	-0.2	250.3
	181+00	255.6	-0.3	-0.8	1.5	-0.6	255.7
	181+20	253.7	-1.2	1.1	-0.8	0	250.92
	181+40	254	0.3	-0.5	0.1	-0.5	253.96
	181+60	256.1	-0.8	0	-0.5	-1.4	254.36
	181+80	255.36	-0.4	0.7	1	-1.2	251.8
	182+00	255.3	-1.8	-1.4	0.2	-1.1	253.3
	182+20	253.1	-0.3	-0.5	-0.8	-0.1	250.59
	182+40	256.6	0.3	0	-0.8	0	254.9
	182+60	252.6	0.4	-0.5	1	-1.1	252.9
	182+80	254.32	-0.4	-0.8	-0.4	-1.3	254.48
	183+00	252.14	-0.8	0	-0.8	-1	254.91
	183+20	255.42	0.2	-0.1	0.3	-1.3	257.12
	183+40	-	0.2	-1	-0.6	0	252.78
	183+60	254.64	0.7	-0.2	0.9	-0.9	254.39
Three Dowel	183+80	253.6	0.3	-1.8	0.3	-0.7	253.35
Bars	184+00	255.78	0.2	-0.4	0	-0.5	252.16
	184+20	255.97	0.2	-0.6	0.7	-0.9	252.67
	184+40	256.27	0.6	-0.6	1	-0.7	253.18
	184+60	254.6	0	-1.6	0.1	-0.1	251.8
	184+80	255.91	0.8	-0.2	0.5	0.2	250.14
	185+00	254.35	0.3	0.2	-0.9	-0.4	250.64
	185+20	-	1	-0.3	-0.5	-0.4	253.58
	185+40	257.4	-0.3	-1.3	-0.3	-1.2	253.4
	185+60	254	0.2	0	0.5	-0.5	253.94
	185+80	253.14	0	-0.2	-0.6	-1.2	257.33

	Start Time	Start Temp	End Time	End Temp				
	7:40	34	11:00	53				
			West Bound Lane			East Bound Lane		
	Station Number		Outside Faulting	Inside Faulting	Inside Faulting	Outside Faulting		
	10/5/1999	Joint Opening	(mm)	(mm)	(mm)	(mm)	Joint Opening	
	178+00	254.59	-0.8	-0.9	-0.8	-1.4	257.65	
	178+20	253.45	-1	-2.5	-0.2	-1.1	254.86	
	178+40	256.04	-0.8	0	0.1	-0.9	253.48	
	178+60	253.38	-0.5	-0.5	-0.2	-0.5	253.2	
	178+80	253.41	0	-1.7	0	-1.1	253.2	
	179+00	256.63	-0.8	-1.5	-0.7	-0.8	250.46	
	179+20	253.54	-4	-1.7	0.5	-1.5	255.71	
	179+40	253.52	-1.5	0.2	-0.2	-1.1	250.6	
	179+60	256.63	-2.4	-0.5	-1.5	-0.3	256.85	
Zero Dowel	179+80	255.7	-0.7	-0.3	-2.3	-1	251.88	
Bars	180+00	256.91	-2.7	-2.4	0	0.2	250.66	
	180+20	256.98	1	0	0.7	-1.3	250.95	
	180+40	251.1	0	0.6	-0.5	-0.3	254.4	
	180+60	254.9	-1.2	-1.1	-1.3	-0.8	254.95	
	180+80	253.17	-0.6	1	-0.4	-1.1	250.26	
	181+00	256.24	-0.3	-0.1	-0.9	-0.9	256.8	
	181+20	254.81	-1	1.2	-0.4	-0.5	252.2	
	181+40	254.28	0.7	0	0	-0.8	255	
	181+60	257.47	-1.2	-1.1	-0.6	-1.8	255.02	
	181+80	256.08	-1.5	0	0	-1.5	252.11	
	182+00	256.14	-1.3	-1.8	-1.3	1.1	254.55	
	182+20	254.5	-0.3	0.3	-1.9	0	251.34	
	182+40	257.4	0.1	0.4	-0.3	0.5	255.21	
	182+60	253.4	1	0	-0.1	-2.1	254	
	182+80	255.1	1.1	-0.8	-0.5	-1.8	255.26	
	183+00	252.59	0.7	0	-0.2	-2.3	255.56	
	183+20	256.67	-0.4	0.2	0.5	-1.8	257.33	
	183+40	-----	0.1	-0.8	0.2	-0.5	254.17	
	183+60	255.39	0.5	0.4	0.5	-0.3	254.7	
Three Dowel	183+80	253.85	0.7	-0.7	0.6	0	254.72	
Bars	184+00	256.97	1.2	-0.3	0.2	-0.2	253.65	
	184+20	256.95	1	-1.5	0.5	-1.2	253.72	
	184+40	256.33	0.7	-0.6	1	0.9	253.95	
	184+60	256.3	-0.3	-1.3	0.6	-0.5	252.67	
	184+80	256.65	0.9	0	0	-0.7	251.65	
	185+00	255.1	0.3	-0.6	0.5	-0.1	251.42	
	185+20	-----	1	-0.5	-0.5	-0.3	254.43	
	185+40	258.45	0	-1	-0.3	-1.1	254.25	
	185+60	254.71	0.7	-0.3	-0.4	-1.3	255.95	
	185+80	253.67	0	-1	0.9	-2.3	256.47	

	Start Time	Start Temp	End Time	End Temp			
	6:45	52 F	8:10	69			
			West Bound Lane		East Bound Lane		
	Station Number		Outside Faulting	Inside Faulting	Inside Faulting	Outside Faulting	Joint
	5/25/2000	Joint Opening	(mm)	(mm)	(mm)	(mm)	Opening
	178+00	257	-0.2	-0.6	0.5	-1	254
	178+20	253.9	-0.7	-0.1	-0.3	-0.8	254.2
	178+40	255.2	-0.3	-0.3	0.1	-0.7	253.2
	178+60	252.8	-1.5	-1	0.5	-0.6	253.1
	178+80	253.1	-0.3	-1.5	0.2	-1.1	253
	179+00	256.1	-0.5	-1.3	-0.8	-0.6	250.4
	179+20	254.4	-1	0.8	-1.3	0.4	253.1
	179+40	253.2	-1.1	-2	1.7	-1.8	250
	179+60	255.8	-1.3	-0.7	-1.3	0.2	255.8
Zero Dowel	179+80	255.1	-0.1	1	-1.8	-0.3	251.4
Bars	180+00	256.7	-1.3	-1.4	1	0.3	250.6
	180+20	256.6	1.5	1	0.3	-1.7	250.3
	180+40	250.3	-0.2	0.2	-0.2	0	253.3
	180+60	254.2	-1	-0.8	0.5	-0.9	254
	180+80	252.8	-0.3	0.1	-0.3	-0.5	250.5
	181+00	255.4	-0.5	-0.1	0.5	-0.4	255.5
	181+20	254.5	-1.3	1	-0.2	-0.3	252.2
	181+40	254.3	-0.7	-0.5	0	-0.7	254.5
	181+60	257.3	-0.5	-1.2	-0.8	-1.3	254.4
	181+80	256.1	-0.7	0	0	-1	251
	182+00	255.5	-1.6	-0.2	-0.1	-0.8	254.5
	182+20	254.3	-0.7	-0.4	-1	0.5	250.6
	182+40	256.8	0.1	0.2	-0.7	-0.3	254.7
	182+60	252.8	0.3	-0.6	1	-1.3	253.6
	182+80	255.1	0.2	-0.3	-0.3	-1	255.6
	183+00	255.9	-0.1	0.8	0	-1.4	255.6
	183+20	255.9	0.2	-0.6	-0.4	-1.2	256
	183+40	nn	-0.2	-1.6	0.5	-0.2	253.2
	183+60	255.2	0.2	0.5	0.2	-0.9	254.2
Three Dowel	183+80	253.2	0.2	-1	1.2	-0.7	254.4
Bars	184+00	256.3	0.3	-0.2	0.4	-0.5	253.2
	184+20	256.2	0.3	-0.5	0.5	-0.6	252.3
	184+40	256	0.4	-0.8	0.7	0.2	253.3
	184+60	256.1	0.7	-1.4	0.2	0.4	252.4
	184+80	256.7	0	-0.2	0.3	0.2	251.1
	185+00	254.5	-0.2	0	-0.7	-0.4	251.1
	185+20	nn	0.2	-0.4	-0.8	-0.2	254
	185+40	258	-0.5	-1.4	0.7	-0.9	253.9
	185+60	254.4	0.5	-0.3	-0.5	-0.8	255.4
	185+80	253.2	0	0.3	-0.1	-1.3	256.1

	Start Time	Start Temp	End Time	End Temp			
	9:30	44 F	10:50	54 F			
		West Bound Lane			East Bound Lane		
	Station Number		Outside Faulting	Inside Faulting	Inside Faulting	Outside Faulting	
	4/24/2001	Joint Opening	(mm)	(mm)	(mm)	(mm)	Joint Opening
Zero Dowel Bars	178+00	257.5	0.2	-1	0.2	-0.2	253.2
	178+20	253.4	0.1	-0.9	0.5	-0.8	254.2
	178+40	252.2	0	-0.5	-0.1	0.4	252.9
	178+60	252.9	-1.2	-0.8	-0.3	0.4	252.8
	178+80	253.5	0.2	-2	-0.5	-1.5	253.5
	179+00	256	-0.5	-0.8	-0.3	0.5	250
	179+20	252.8	0.3	-1.8	1.2	-0.5	254.7
	179+40	252.9	-0.5	-1.9	0.5	-1.2	250.9
	179+60	256.3	-0.4	0.3	-1.4	1	255.3
	179+80	254.9	-0.8	-0.2	-2.3	-0.6	251.2
	180+00	256.5	0	-2	0.2	1.3	250.1
	180+20	256.5	1.5	0.9	0	-1	250.2
	180+40	250.4	-0.5	0	0	-0.5	253.7
	180+60	253.9	0	0.5	0	-0.5	253.9
	180+80	252.7	-0.3	0	-1	-0.5	250.5
	181+00	256	-0.5	-0.8	1	-0.6	255.9
	181+20	254.9	-0.8	1.2	-0.8	0.5	251.5
	181+40	254.7	-1.1	-0.5	-0.9	-0.2	254.6
	181+60	256.4	-0.5	-0.3	-1.1	-0.5	254.7
	181+80	256	-0.7	0	0.4	-1	251.6
Three Dowel Bars	182+00	255.6	-1.3	-1.4	0.4	-1	254.2
	182+20	253.7	0.4	0.1	-1.1	0.2	251.1
	182+40	256.9	0.4	0.4	-1.1	0.4	254.1
	182+60	253.1	0.5	-1.4	1	-1.6	253.1
	182+80	254.7	0.2	0.9	-0.3	-1.3	254.7
	183+00	252.5	-0.3	-0.2	-0.6	-1.2	256
	183+20	255.5	-0.1	-0.4	-0.4	-1.9	256
	183+40	-	-0.4	-2	0.5	0	253.5
	183+60	254.9	0.6	0.2	-0.7	-0.6	253.8
	183+80	253.7	0.4	-1.8	0.6	-1	253.7
	184+00	256.4	0.3	0.1	0.9	-0.8	253.1
	184+20	256.4	0	-0.8	0	-1.1	252.7
	184+40	255.8	-0.2	-0.7	0.5	0.4	253.3
	184+60	255.8	-0.4	-1.2	-0.4	-0.3	252.5
	184+80	256.6	0.3	-0.8	0.9	0.7	251.1
	185+00	254.2	0.3	-0.3	-1	-0.5	251.2
	185+20	-	0.3	-0.5	-1	-0.4	254.2
	185+40	257.7	-0.2	-2.2	0.1	-1.1	253.8
	185+60	253.9	0.4	-0.8	0.3	-0.3	254.5
	185+80	253.9	-0.3	-1.2	-0.7	-1.1	253.9

	Start Time	Start Temp	End Time	End Temp			
	8:11	67	9:15	79			
		West Bound Lane			East Bound Lane		
	Station Number	Joint Opening	Outside Faulting (mm)	Inside Faulting (mm)	Inside Faulting (mm)	Outside Faulting (mm)	Joint Opening
	9/4/2001						
Zero Dowel Bars	178+00	256.7	-0.5	-0.2	0.4	-0.3	253.1
	178+20	253.1	0.3	0	-0.2	-1.3	254.2
	178+40	255	0.2	-0.3	0.2	0	252.8
	178+60	252.2	-0.9	-1.5	0.5	-0.5	253
	178+80	252.9	-0.6	-1.5	0.2	-1.3	252.6
	179+00	256.4	0.2	-1.6	0.4	-0.5	250.4
	179+20	253.1	-0.2	-1.3	0.4	-1.3	254.9
	179+40	253	-0.4	-1.6	0.2	-1.1	250.5
	179+60	255.6	-0.9	-0.4	-1	0.1	255.6
	179+80	255.3	-0.3	0.1	-1.6	-0.4	251.9
	180+00	256.7	-0.6	-1	0.5	0	250.1
	180+20	256.5	0.9	1.3	0.2	-0.4	250.6
	180+40	250.2	-0.3	0.4	0	-0.5	253.4
	180+60	254.41	-1.1	0.2	0	-0.7	254.4
	180+80	252.6	-0.05	0.2	0	-0.8	250.7
	181+00	255.4	0.03	0.2	0.9	-0.8	255.9
	181+20	254.5	-1.3	1.9	-0.6	-0.1	251.5
	181+40	254.1	-0.7	-0.3	0.7	-0.8	254.3
	181+60	256.6	-0.8	-0.9	-1	0.8	254.6
	181+80	256.4	-1.1	0.2	0.4	-0.5	251.1
Three Dowel Bars	182+00	255	-1.8	-1	-0.7	-1	254.9
	182+20	253.8	-1	-0.4	-0.5	0.1	251.6
	182+40	256.9	0.5	-0.9	-0.7	-0.3	254.3
	182+60	253.2	0.1	-0.7	0.6	-1.3	253.4
	182+80	255	0.2	-0.6	-0.2	-0.7	254.7
	183+00	252.4	-0.8	0.9	-0.9	-1	255.6
	183+20	256.9	-1.8	0.4	0.1	-0.3	256
	183+40	-	-0.5	-2	-0.5	-0.2	253.6
	183+60	254.8	-0.7	1	0.1	0.7	254.8
	183+80	253.3	0.3	-1.1	1.4	-0.8	253.3
	184+00	255.8	0.6	-0.2	-0.8	-0.8	252.8
	184+20	256.9	0	-1.4	0.7	-0.8	252.8
	184+40	255.8	0	-0.5	0.8	0.5	253.4
	184+60	255.9	-0.6	-1.8	0	0.2	252.5
	184+80	256.5	0.2	0	1	0.9	251.4
	185+00	254.3	0.2	-0.4	0.1	0	251.3
	185+20	-	0	-0.1	-0.4	-0.1	253.8
	185+40	257.9	-0.4	-1.2	0.2	-0.6	254.1
	185+60	254.2	-0.5	-0.3	0.2	-0.6	255.2
	185+80	253.7	0.3	-0.7	-0.7	-1.3	255.5

	Start Time	Start Temp	End Time	End Temp			
	9:25	55	10:45	56			
	Station Number	West Bound Lane			East Bound Lane		
		Joint Opening	Outside Faulting (mm)	Inside Faulting (mm)	Inside Faulting (mm)	Outside Faulting (mm)	Joint Opening
	4/20/2002						
Zero Dowel Bars	178+00	256.7	-0.3	-1	-0.3	-0.3	253.4
	178+20	252.8	0.3	-0.5	-0.8	-1.3	253
	178+40	255.5	-0.1	-0.5	0.2	0	252.7
	178+60	252.5	-0.8	-1.6	-0.2	0.4	252.5
	178+80	252.6	-0.5	-1.7	-0.3	-1.8	252.5
	179+00	255.7	-1.3	-1.1	-0.5	-0.5	250.3
	179+20	252.8	-0.5	-2	-0.6	-0.5	255.2
	179+40	252.9	-1.5	-1.8	0.7	-0.8	249.7
	179+60	255.3	-0.3	-0.3	-1.3	0.5	255.3
	179+80	255.3	-0.7	-0.7	-2.2	-1	251.3
	180+00	256.6	-0.5	-2.4	-0.7	0.5	251
	180+20	256.5	0.6	0.6	-0.3	-0.8	250.9
	180+40	250.3	0	-0.2	-0.3	-1	254
	180+60	254.0	-1.1	0.2	0.7	-0.5	253.7
	180+80	252.9	-1.5	0.2	-1.1	0.2	250.6
	181+00	255.3	-0.7	-0.8	1.1	-0.8	252.3
	181+20	253.9	-0.9	1.5	-1.6	0.3	251.8
	181+40	254.0	-1	-0.3	1.2	0.2	254.8
	181+60	256.8	-1.3	-0.5	-1.1	-1.2	254.8
	181+80	256.3	-1.3	0.5	0.1	-1.2	254.8
Three Dowel Bars	182+00	255.8	-1.3	-0.9	0	-0.5	253
	182+20	254.1	-1.3	0.2	-1.1	0.6	251.54
	182+40	256.6	0.3	0.5	-0.8	0.2	254.6
	182+60	253.7	-0.2	-1.3	1.1	-1.5	253.5
	182+80	254.8	-0.3	-0.8	-0.3	-1	254.9
	183+00	252.7	0	0.2	-0.8	-0.9	255.8
	183+20	255.8	0	-0.2	-0.5	-1.2	255.8
	183+40	nn	-0.2	-1.6	0	-0.1	253.3
	183+60	254.5	0.5	-0.6	0.7	-1	254.6
	183+80	253.7	0.5	-0.8	1	-0.9	253.7
	184+00	255.8	0.2	-0.6	1	-0.4	253.7
	184+20	255.8	-0.1	-0.6	0.5	-0.9	253.8
	184+40	256.2	0.2	-0.9	1.1	-0.7	253.8
	184+60	255.3	-0.3	-1.5	0.9	-0.1	252.6
	184+80	256.9	-0.2	-0.5	0.5	-0.2	251.3
	185+00	254.6	-0.6	-1.1	-0.8	-0.7	251.6
	185+20	nn	0.1	-0.3	-0.3	-0.5	254
	185+40	257.6	-0.3	-1.6	0.2	-1.3	253.7
	185+60	254.5	0.3	-0.6	-0.2	-0.6	254.5
	185+80	254.4	-0.3	-0.8	0.5	-2	255.8

	Start Time	Start Temp	End Time	End Temp			
	17:15	89 F	19:30	80 F			
	Station Number	West Bound Lane			East Bound Lane		
	9/30/2002	Joint Opening	Outside Faulting (mm)	Inside Faulting (mm)	Inside Faulting (mm)	Outside Faulting (mm)	Joint Opening
Zero Dowel Bars	178+00	255.7	-0.4	-0.6	-0.8	0.5	247.4
	178+20	250.7	-1.5	-1.2	-0.1	-0.8	247.6
	178+40	254.2	-0.1	-0.9	-0.5	-0.2	251.8
	178+60	251.8	-1.7	-2	-0.5	0.1	251.4
	178+80	251.9	-0.6	-1.5	-0.3	-1.3	248.7
	179+00	254.9	-1.6	-0.7	-0.7	-0.5	247.5
	179+20	253.4	-1.3	-2.1	0.2	-1.1	254
	179+40	252.3	-1	-2.1	0.4	-1.1	247.4
	179+60	254.9	-0.7	-0.5	-1.5	-0.5	254.2
	179+80	254.0	-0.3	-0.6	-1.8	-0.3	250.2
	180+00	255.5	-1.6	-1.4	-0.2	-0.9	246.3
	180+20	255.2	0.7	-0.1	0.2	-1	248.6
	180+40	247.9	0.1	-0.3	-0.6	-0.5	252
	180+60	252.6	-0.7	-0.5	-0.7	-0.3	253.7
	180+80	251.9	-0.6	-0.2	-0.6	-0.5	249.6
	181+00	254.8	0	-0.5	0.7	-0.8	253.3
	181+20	252.9	-0.7	0.1	-1.3	0.6	250.5
	181+40	252.9	-0.3	-0.4	0.2	-0.5	251.7
	181+60	255.7	-1.3	-0.8	-1.3	-1	253.2
	181+80	254.7	-1.3	-0.3	0.5	-1	250.8
Three Dowel Bars	182+00	255.0	-1.5	-0.8	-0.8	-1	254
	182+20	253.1	-1.5	-0.5	-1.9	-0.8	250.8
	182+40	256.5	-0.3	0	-1.3	-0.8	253
	182+60	250.7	-0.8	-0.6	0.7	2.5	251.7
	182+80	254.3	-0.8	-0.7	-0.6	-1.8	253.4
	183+00	252.0	0	-0.8	-1.9	-2.5	254.9
	183+20	254.9	-0.9	-0.6	0.2	-2	254.1
	183+40	nn	-0.1	-2.5	-0.7	-1	252
	183+60	252.8	-0.5	-0.3	-0.4	-0.3	254.1
	183+80	252.6	0.2	-1.1	0.4	-1	252
	184+00	254.9	0.7	-0.1	-0.5	-0.6	251.7
	184+20	254.9	-0.6	-1.2	-0.2	-1.5	251.4
	184+40	254.8	0.3	-0.8	0.8	-0.4	251.2
	184+60	255.4	-0.7	-2.1	-0.1	-1.1	251.7
	184+80	255.5	0.1	-0.5	0.7	-0.7	250
	185+00	252.5	0.3	-0.3	-1.3	-0.8	250
	185+20	nn	0.2	-0.5	-0.9	-1	252.9
	185+40	257.0	-0.6	-1.3	0.2	-1.2	252.4
	185+60	252.4	-0.2	-0.9	-0.2	-2.2	252.3
	185+80	253.0	0	-0.1	-0.7	-1.8	254.1

	Start Time	Start Temp	End Time	End Temp			
	11:30	65 F	0:40	73 F			
	Station Number	West Bound Lane			East Bound Lane		
	4/21/2003	Joint Opening	Outside Faulting (mm)	Inside Faulting (mm)	Inside Faulting (mm)	Outside Faulting (mm)	Joint Opening
Zero Dowel Bars	178+00	256.9	-0.5	-1.9	-0.8	-0.8	253.6
	178+20	252.5	-0.9	-2.8	-1.3	-1.8	253.3
	178+40	253.7	-1.3	-0.3	-0.8	-0.6	252.8
	178+60	252.1	-2.0	-2.5	-0.3	-0.3	252.0
	178+80	252.5	-1.5	-2.4	-0.5	-1.5	252.6
	179+00	256.5	-2.2	-2.9	-0.9	-0.8	249.8
	179+20	252.5	-2.1	-3.0	-0.4	-1.0	254.3
	179+40	253.2	-2.5	-2.8	-0.2	-0.5	250.6
	179+60	255.5	-0.7	-1.3	-1.4	-1.0	254.6
	179+80	254.3	-0.5	-1.0	-3.0	-1.0	251.0
	180+00	255.8	-2.9	-3.4	-1.5	-0.2	249.1
	180+20	255.4	0.0	0.4	-1.3	-1.3	250.8
	180+40	249.8	-1.1	-1.1	-1.2	-1.0	253.9
	180+60	253.7	-1.1	-1.2	-1.0	-0.8	252.8
	180+80	252.4	-1.5	-1.3	-0.8	-1.2	249.4
	181+00	254.8	-0.5	-1.5	-0.3	-1.5	255.8
	181+20	253.2	-2.1	0.5	-2.0	-0.6	250.9
	181+40	253.1	-1.8	-0.8	-0.1	-1.5	254.0
	181+60	255.9	-1.0	-1.0	-2.6	-1.8	253.7
	181+80	255.4	-1.2	-0.3	-0.3	-0.3	251.1
Three Dowel Bars	182+00	255.3	-2.8	-1.4	-0.4	-0.2	254.4
	182+20	254.2	-1.5	-0.5	-1.9	-0.9	251.3
	182+40	256.0	-0.8	-0.2	-1.5	-1.7	253.4
	182+60	252.6	-1.0	-2.2	-0.2	-3.5	253.7
	182+80	253.6	0.1	-1.8	-1.1	-2.5	253.7
	183+00	249.8	-0.8	-0.8	-0.8	-2.8	254.8
	183+20	254.7	-1.8	-1.2	-0.3	-1.6	255.2
	183+40	nn	-1.0	-2.5	-1.2	-1.2	252.8
	183+60	254.5	-0.5	-1.0	-1.2	-0.8	254.3
	183+80	253.4	0.1	-2.2	-0.1	-1.1	253.1
	184+00	255.8	0.1	-0.9	-0.6	-1.2	250.9
	184+20	256.7	-0.2	-2.3	0.4	-2.0	252.8
	184+40	253.4	0.1	-1.8	-0.2	-1.7	252.5
	184+60	256.0	-1.4	-2.0	-0.5	-2.8	252.0
	184+80	256.0	-1.0	-1.5	-0.2	-1.1	250.8
	185+00	253.5	-1.0	-2.2	-1.5	-1.3	250.1
	185+20	nn	0.2	-1.8	-0.6	-2.2	253.1
	185+40	257.4	-1.4	-2.0	-0.9	-1.6	253.6
	185+60	255.0	-1.0	-1.1	-0.8	-2.3	253.4
	185+80	254.0	-1.0	-1.8	-0.2	-2.3	256.0

Appendix C

Graphs

Figure C.1. Load Transfer Efficiency ~
Urban Test Site, Westbound Lane, Inside Wheelpath

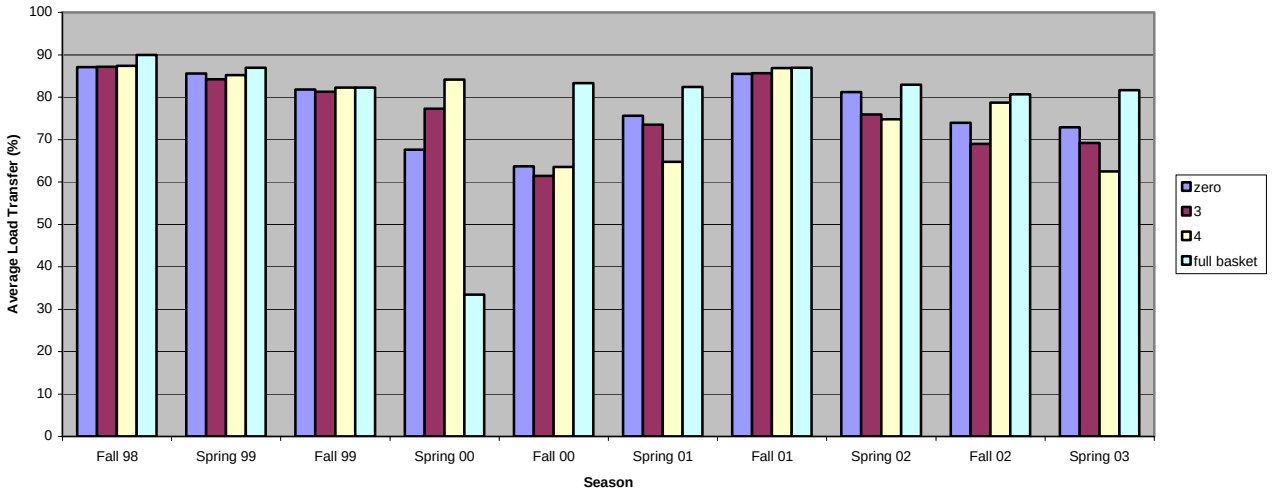

Figure C.2. Load Transfer Efficiency ~
Urban Test Site, Westbound Lane, Outside Wheelpath

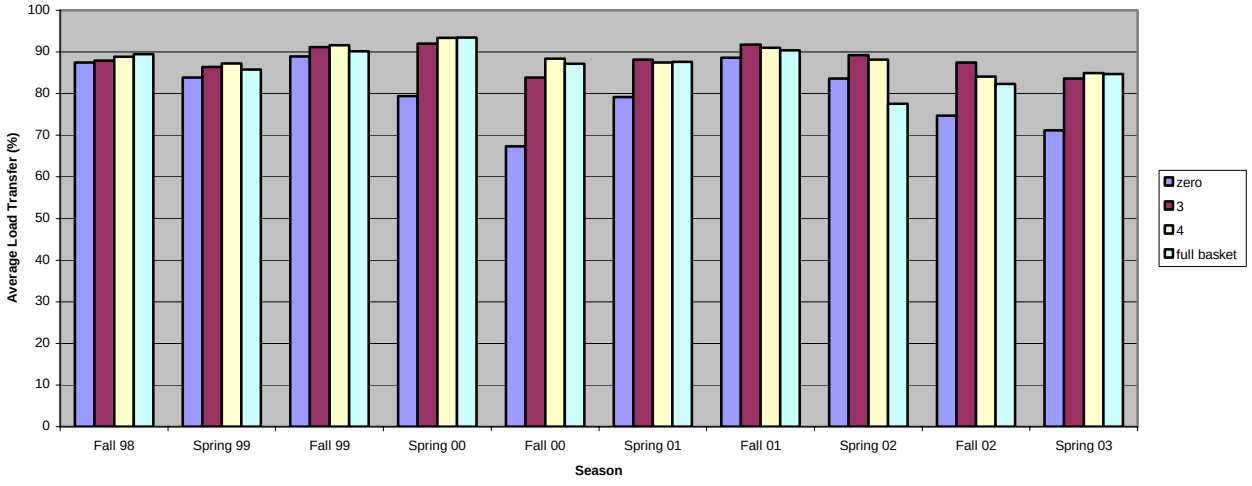

Figure C.3. Load Transfer Efficiency ~
Urban Test Site, Eastbound Lane, Inside Wheelpath

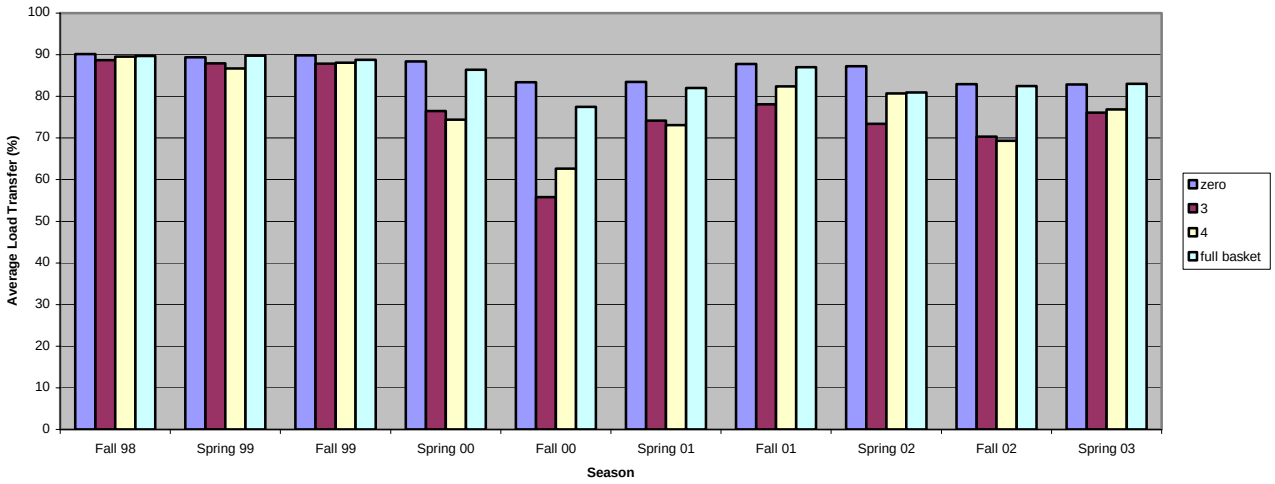

Figure C.4. Load Transfer Efficiency ~
Urban Test Site, Eastbound Lane, Outside Wheelpath

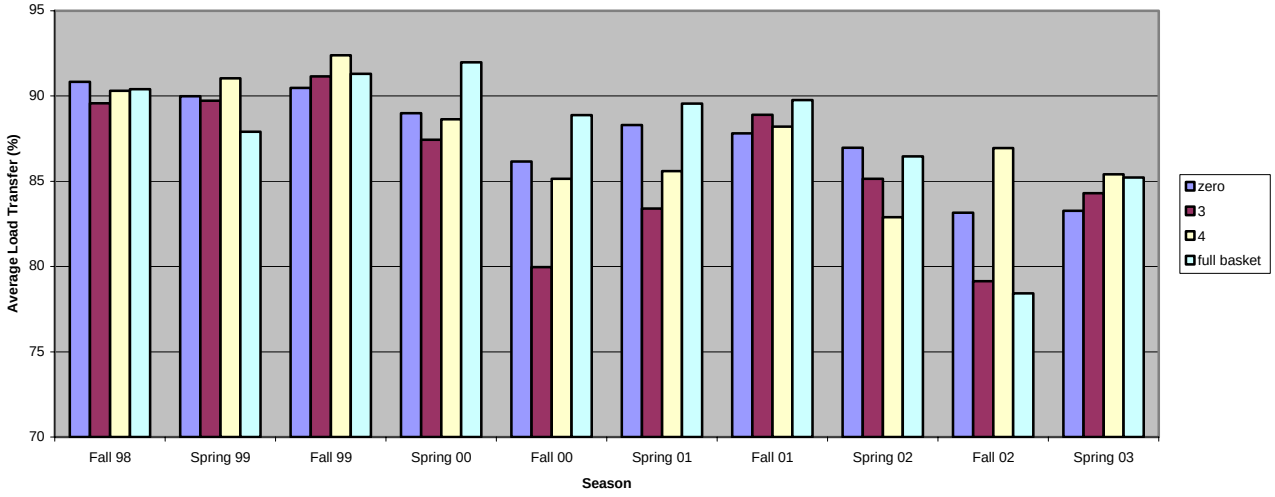

Figure C.5. Load Transfer Efficiency ~
Rural Test Section, Southbound Lane, Inside Wheelpath

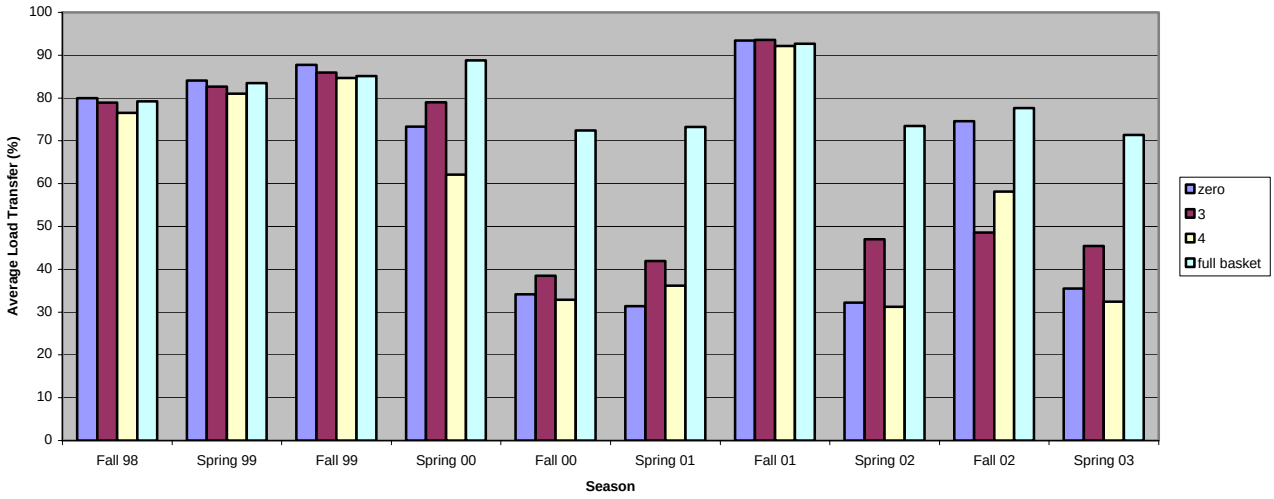

Figure C.6. Load Transfer Efficiency ~
Rural Test Section, Southbound Lane, Outside Wheelpath

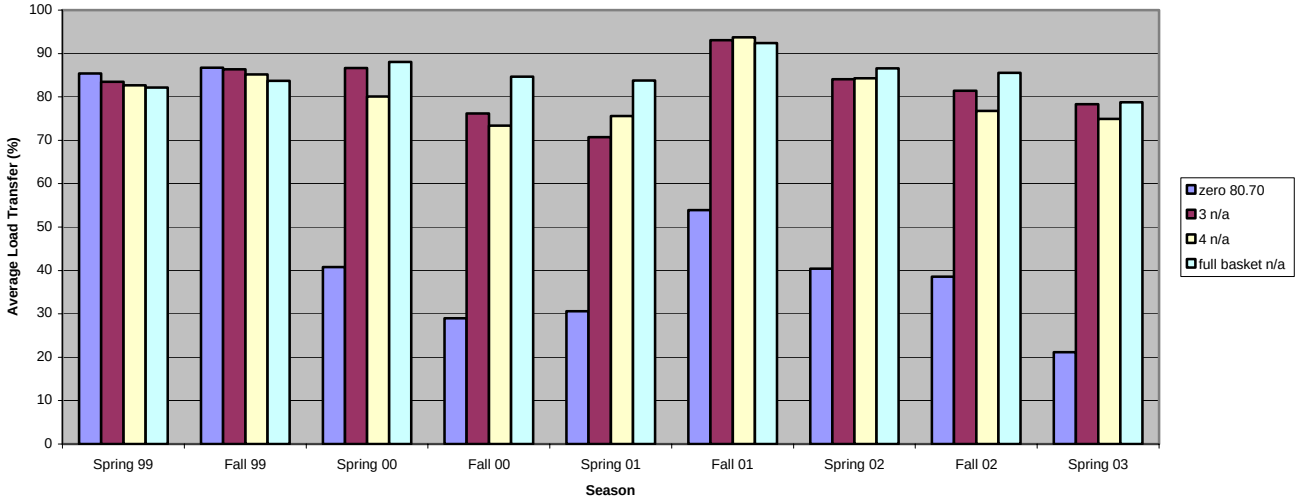

Figure C.7. Load Transfer Efficiency ~
Rural Test Section, Northbound Lane, Inside Wheelpath

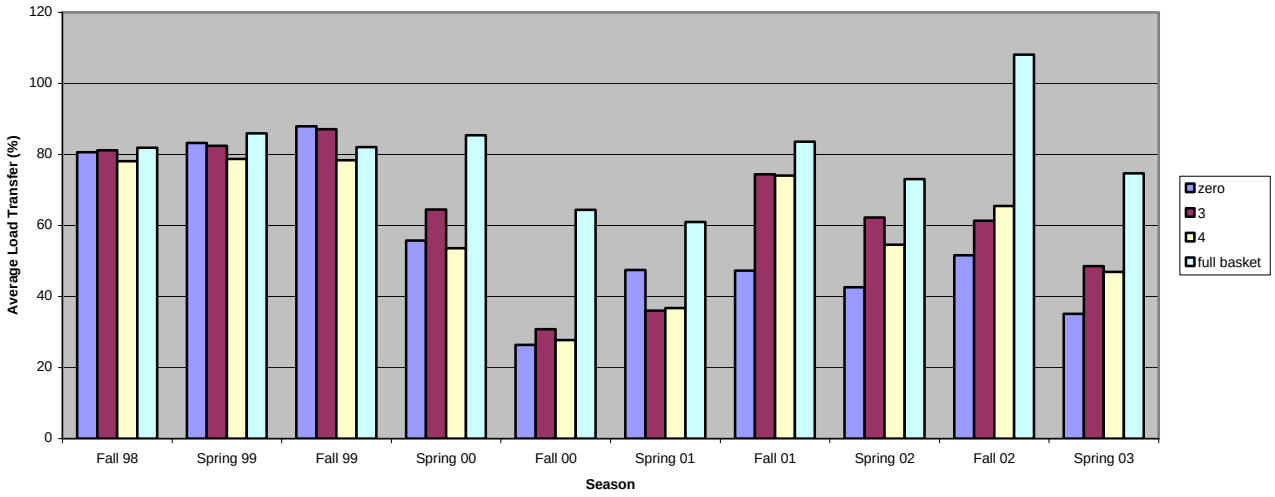

Figure C.8. Load Transfer Efficiency ~
Rural Test Site, Northbound Lane, Outside Wheelpath

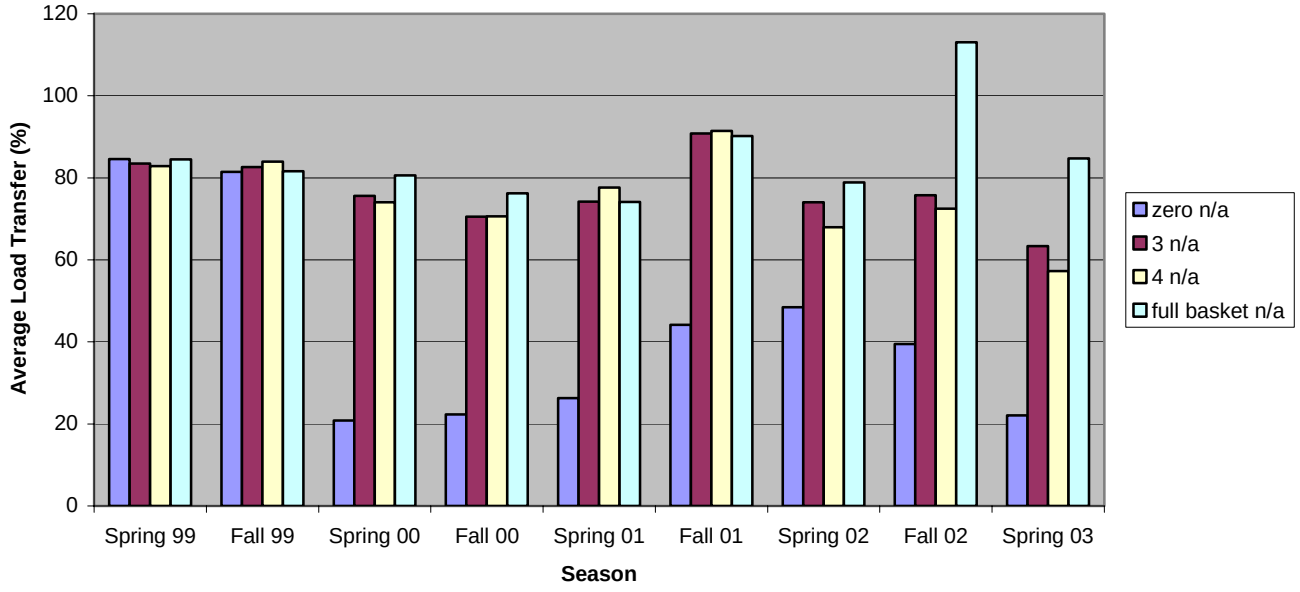

Figure C.9. Average Faulting ~
Urban test site, Westbound lane, Inside wheel path

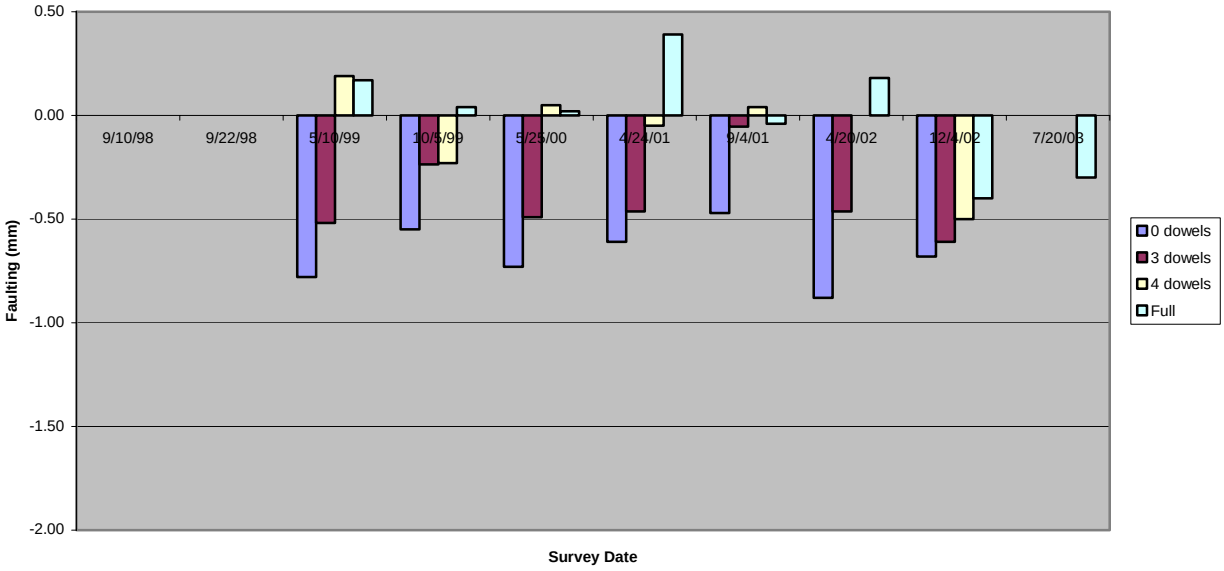

Figure C.10. Average Faulting ~
Urban test site, Westbound lane, Outside wheel path

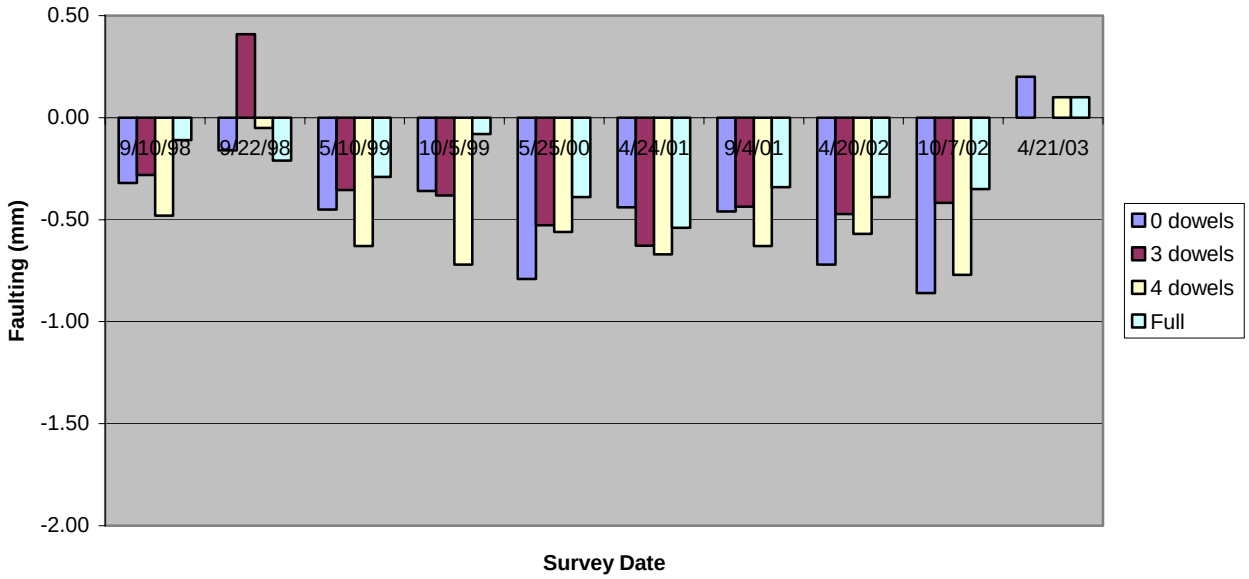

Figure C.11. Average Faulting ~
Urban test site, Eastbound lane, Inside wheel path

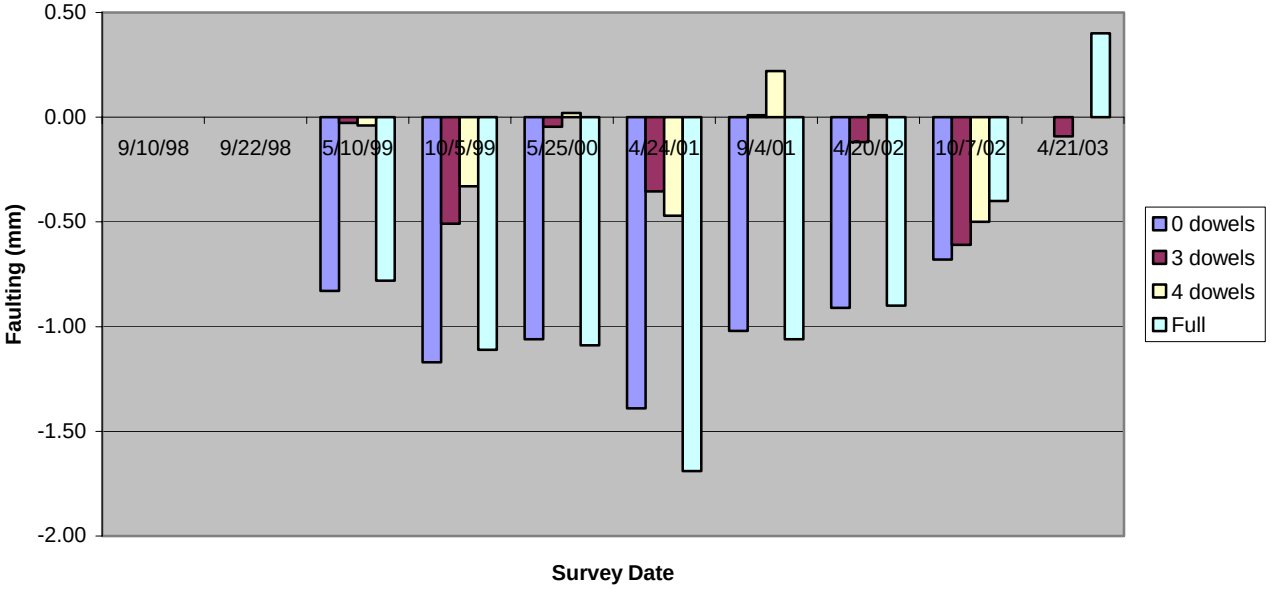

Figure C.12. Average Faulting ~
Urban test site, Eastbound lane, Outside wheel path

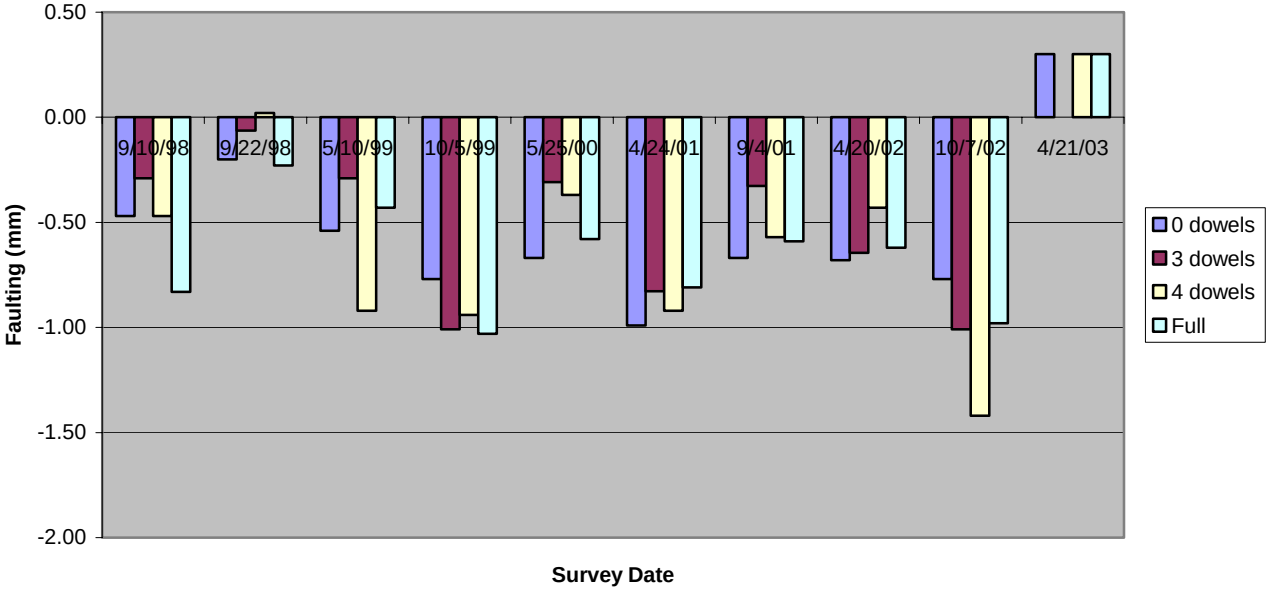

Figure C.13. Average Faulting ~
Rural test site, Southbound lane, Inside wheel path

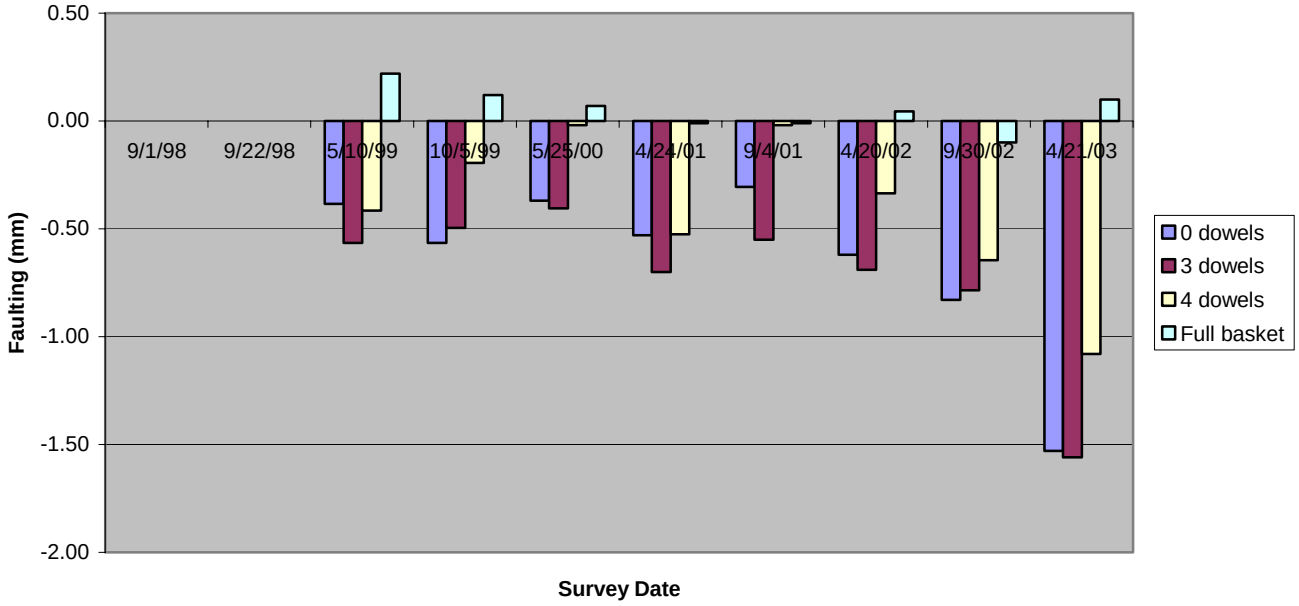

Figure C.14. Average Faulting ~
Rural test site, Southbound lane, Outside wheel path

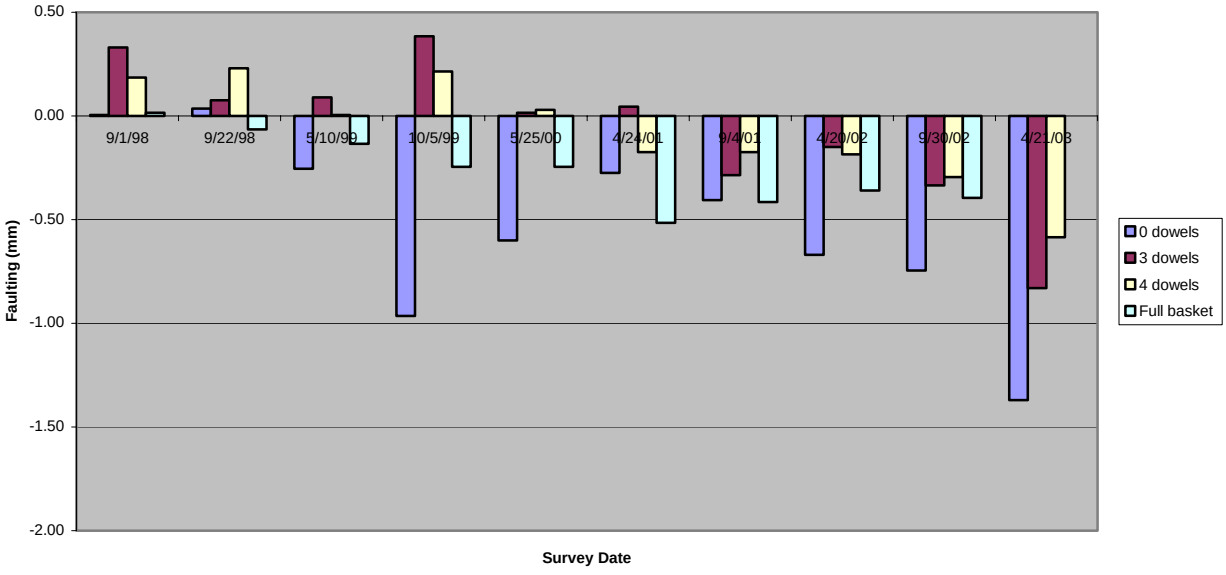

Figure C.15. Average Faulting ~
Rural test site, Northbound lane, Inside wheel path

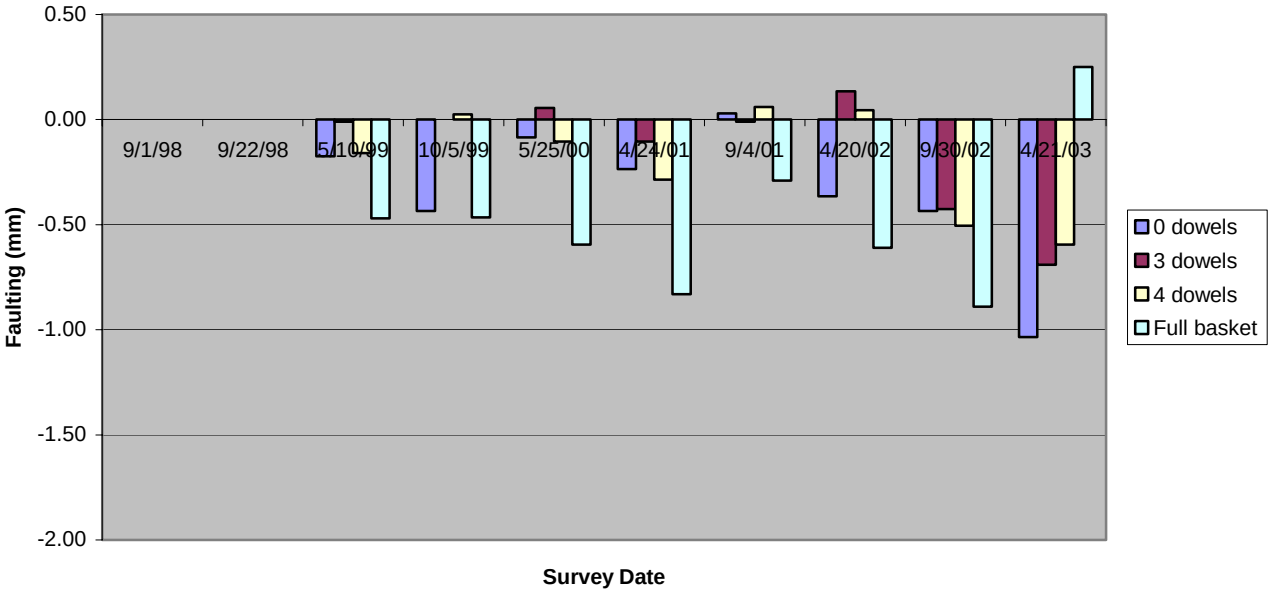

Figure C.16. Average Faulting ~
Rural test site, Northbound lane, Outside wheel path

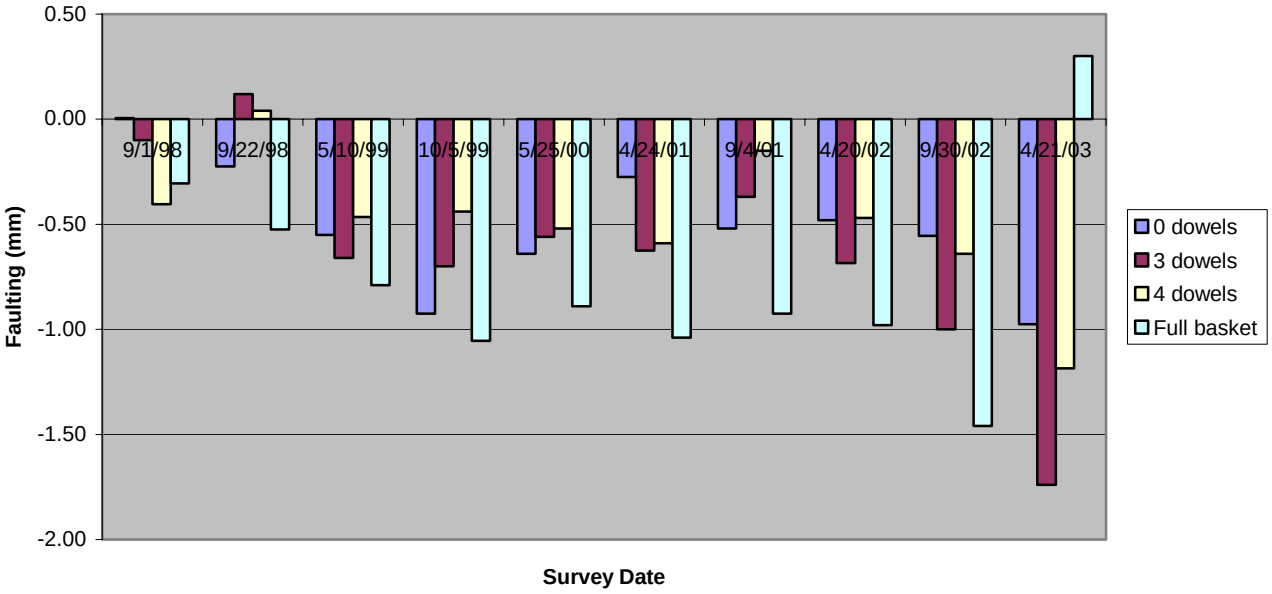

**Figure C.17. Average Joint Movement ~
Urban site, Westbound lane**

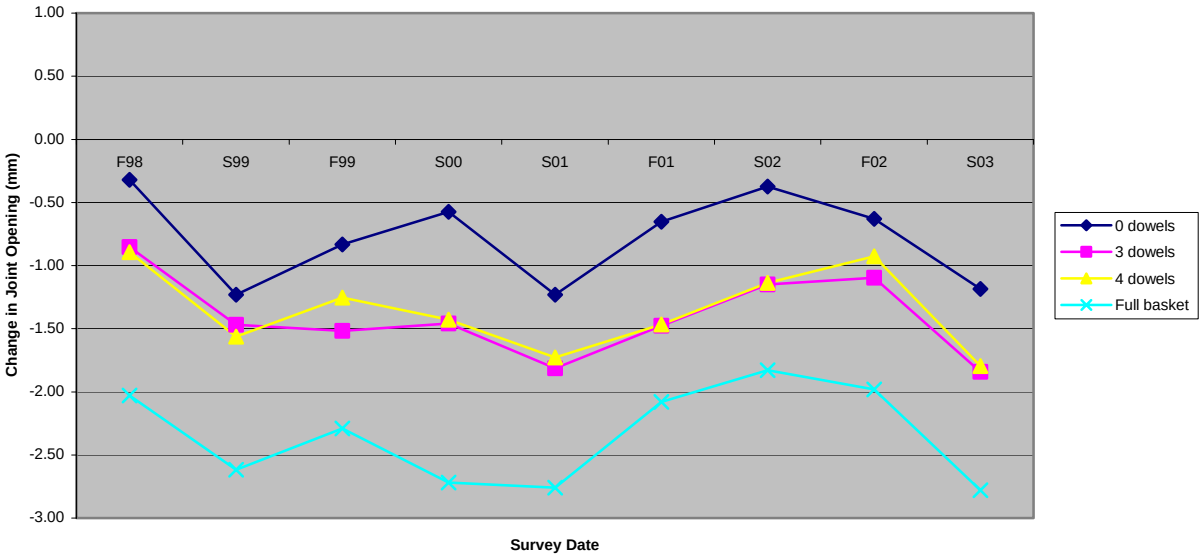

**Figure C.18. Average Joint Movement ~
Urban site, Eastbound lane**

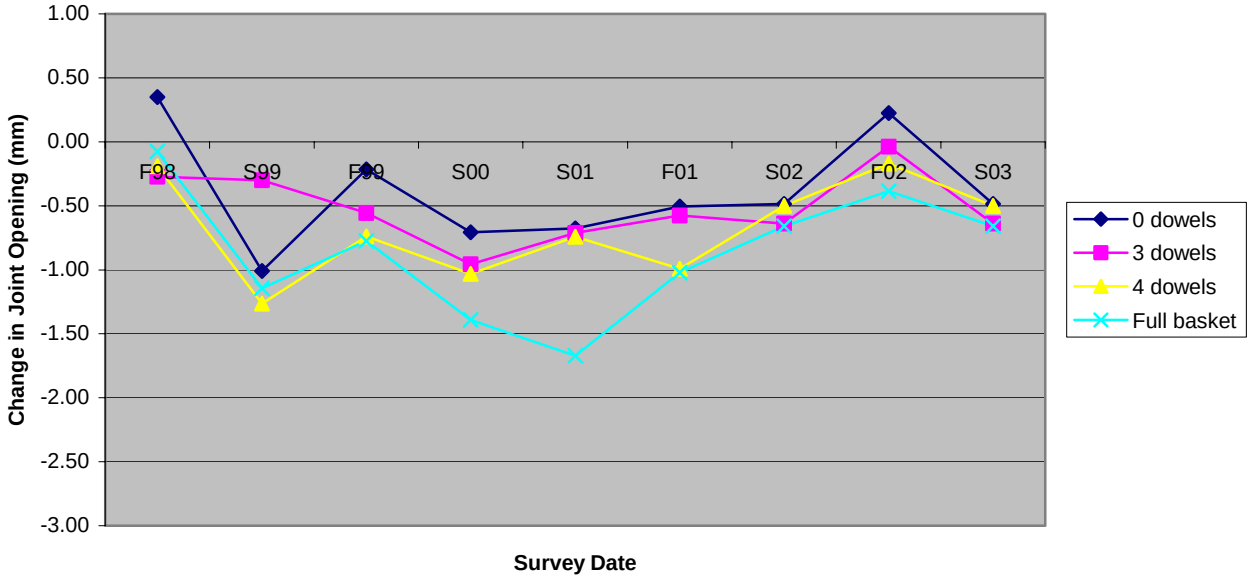

Figure C.19. Average Joint Movement ~ Rural site, Southbound lane

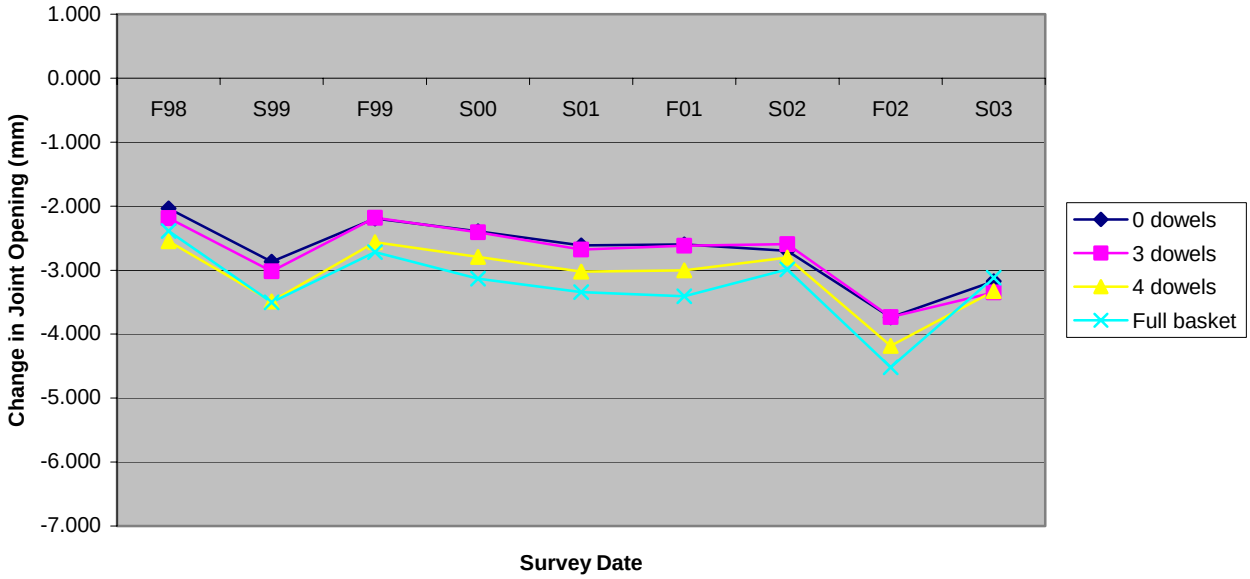

Figure C.20. Average Joint Movement ~ Rural site, Northbound lane