Validation Report

Illinois, SPS-6

Task Order 15, CLIN 2
September 19 to 21, 2006

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1 Executive Summary

A visit was made to the Illinois SPS-6 beginning on September 19 and continuing through September 21, 2006 for the purposes of conducting a validation of the WIM system located on Interstate 57 at milepost 225.6. This SPS-6 site is on the northbound, right hand lane of a divided four-lane facility. The LTPP lane is the only lane that is instrumented at this site. The validation procedures were in accordance with LTPP's SPS WIM Data Collection Guide dated August 21, 2001.

This site was installed as part of the SPS WIM Phase II contract on July 26th and July 27th, 2005. The site was subsequently calibrated, by the Phase II contractor, August 8th to August 10th, 2005.

This is the second validation visit we have made to this site, the first being September 7 and 8, 2005. At that time, this site met the precision requirements for research quality data.

Subsequent to that validation visit, the weigh-pad analyzer board was replaced by IRD/PAT Traffic personnel due to failure. This is the first field validation since that repair.

This site demonstrates the ability to produce research quality loading data under the observed conditions. The classification data is also of research quality for the TMG Classes 6 and above.

The site is instrumented with IRD/PAT Traffic bending plate WIM sensors and WIM controller. It is installed in portland cement concrete pavement.

The validation used the following trucks:

1. 5-axle tractor semi-trailer vehicle with a tractor having an air suspension tandem and a trailer with standard rear tandem and air suspension loaded to 75, 840 lbs; the golden truck.
2. 5-axle tractor semi-trailer vehicle with a tractor having an air suspension and trailer with standard rear tandem and tapered leaf suspension loaded to 60,880 lbs; the partial loaded truck.

The validation speeds ranged from approximately 39 to 60 miles per hour. The speed limit at the site is 60 mph for trucks. The desired speed range was achieved during this validation. The pavement temperatures ranged from 48 to 86 degrees Fahrenheit. The desired 30 degree Fahrenheit temperature range was achieved.

Table 1-1 Post-Validation results – 170600 – 21-Sep-2006

SPS-1, -2, -5, -6 and -8	95 %Confidence Limit of Error	Site Values	Pass/Fail
Steering axles	±20 percent	-4.8 ± 10.4%	Pass
Tandem axles	±15 percent	0.0 ± 6.9%	Pass
GVW	±10 percent	-0.7 ± 5.0%	Pass
Speed	±1 mph [2 km/hr]	N/A	
Axle spacing	± 0.5 ft [150mm]	0.0 ± 0.1 ft	Pass

The pavement condition appeared to be satisfactory for conducting a performance evaluation. There were no distresses observed that would influence truck motions significantly. A visual survey determined that there is no discernable bouncing or avoidance by trucks in the sensor area. Profile data collected by the Regional Support Contractor on June 4, 2006 was also available and is discussed in Section 4.1 of this report.

If this site had been evaluated using the ASTM E-1318-02 standard it would have met the conditions for a Type I site exclusive of wheel loads. LTPP does not validate WIM performance with respect to wheel loads.

Table 1-2 Results Based on ASTM E-1318-02 Test Procedures

Characteristic	Limits for Allowable Error	Percent within Allowable Error	Pass/Fail
Single Axles	± 20%	100%	Pass
Axle Groups	± 15%	100%	Pass
GVW	± 10%	100%	Pass

2 Corrective Actions Recommended

An analysis of the data collected between June 27, 2006 and July 1, 2006, as well as July 26, 2006 and August 2, 2006 should be performed to determine what data was affected by the component failure (flash card filled) and should or should not be loaded into the Traffic database.

The conduit trench for the power service that had collapsed after the initial installation appears to have been repaired.

3 Post Calibration Analysis

This final analysis is based on test runs conducted September 21, 2006 from early morning to late afternoon at test site 170600 on Interstate 57. This SPS-6 site is at milepost 225.6 on the northbound, right hand lane of a divided four-lane facility. No auto-calibration was used during test runs. The two trucks used for calibration and the subsequent testing included:

1. 5-axle tractor semi-trailer combination with a tractor having an air suspension and trailer with standard rear tandem and air suspension loaded to 75, 840 lbs, the golden truck.
2. 5-axle tractor semi-trailer combination with a tractor having an air suspension and trailer with standard rear tandem and tapered leaf suspension loaded to 60,880 lbs, the partial loaded truck.

Each truck made a total of 20 passes over the WIM scale at speeds ranging from approximately 39 to 60 miles per hour. Pavement surface temperatures were recorded during the test runs ranging from about 48 to 86 degrees Fahrenheit. The computed values of 95% confidence limits of each statistic for the total population are in Table 3-1.

As shown in Table 3-1, the site passed all of the performance criteria for weight and spacing.

Table 3-1 Post-Validation Results - 170600 – 21-Sep-2006

SPS-1, -2, -5, -6 and -8	95 %Confidence Limit of Error	Site Values	Pass/Fail
Steering axles	±20 percent	-4.8 ± 10.4%	Pass
Tandem axles	±15 percent	0.0 ± 6.9%	Pass
GVW	±10 percent	-0.7 ± 5.0%	Pass
Speed	±1 mph [2 km/hr]	N/A	
Axle spacing	± 0.5 ft [150mm]	0.0 ± 0.1 ft	Pass

There were no speed errors computed since the speed error was less than 1 mph in the pre-validation checks. Additional speed information was not collected (except for a small sample) during the post-validation check.

The test runs were conducted primarily during the early morning to late afternoon hours, resulting in a wide range of pavement temperatures. The runs were also conducted at various speeds to determine the effects of these variables on the performance of the WIM scale. To investigate these effects, the dataset was split into three speed groups and three temperature groups. The distribution of runs by speed and temperature is illustrated in Figure 3-1. The desired speed range was achieved during this validation. The desired 30 degree Fahrenheit temperature range was also achieved.

The speed groups were divided as follows: Low speed – 39 to 45 mph, Medium speed – 46 to 55 mph and High speed - 56+ mph. The three temperature groups were created by splitting the runs between those at 48 to 59 degrees Fahrenheit for Low temperature, 60 to 77 degrees Fahrenheit for Medium temperature and 78 to 86 degrees Fahrenheit for High temperature.

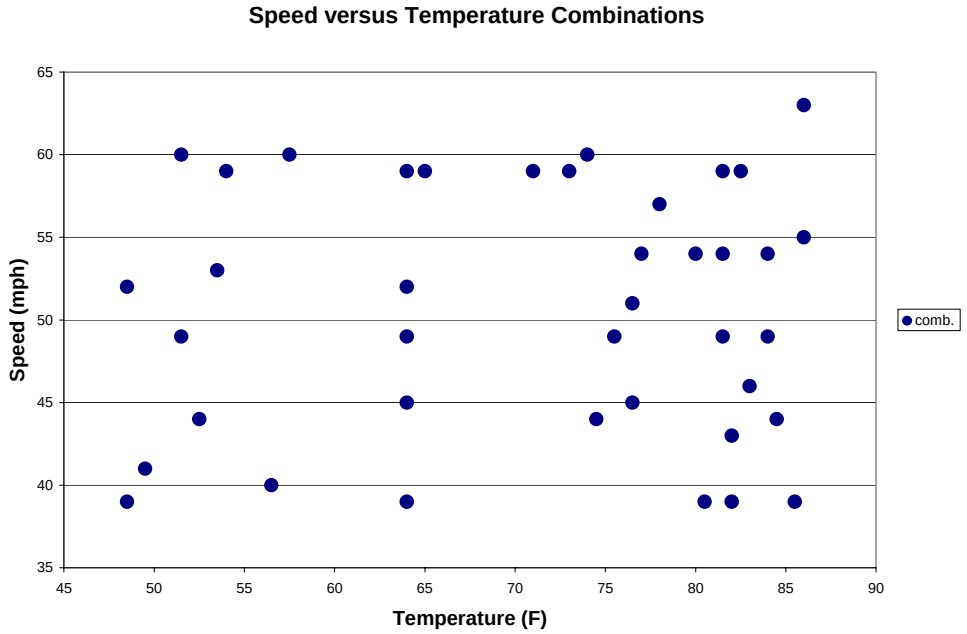

Figure 3-1 Post-Validation Speed-Temperature Distribution – 170600 – 21-Sep-2006

A series of graphs was developed to investigate visually any sign of a relationship between speed or temperature and the scale performance.

Figure 3-2 shows the GVW Percent Error vs. Speed graph for the population as a whole. From the figure, it appears that the mean error in GVW errors is consistent throughout the entire speed range. There is a tendency of the equipment to underestimate GVW from 50 to nearly 60 mph. Variability in error is somewhat greater in this speed range.

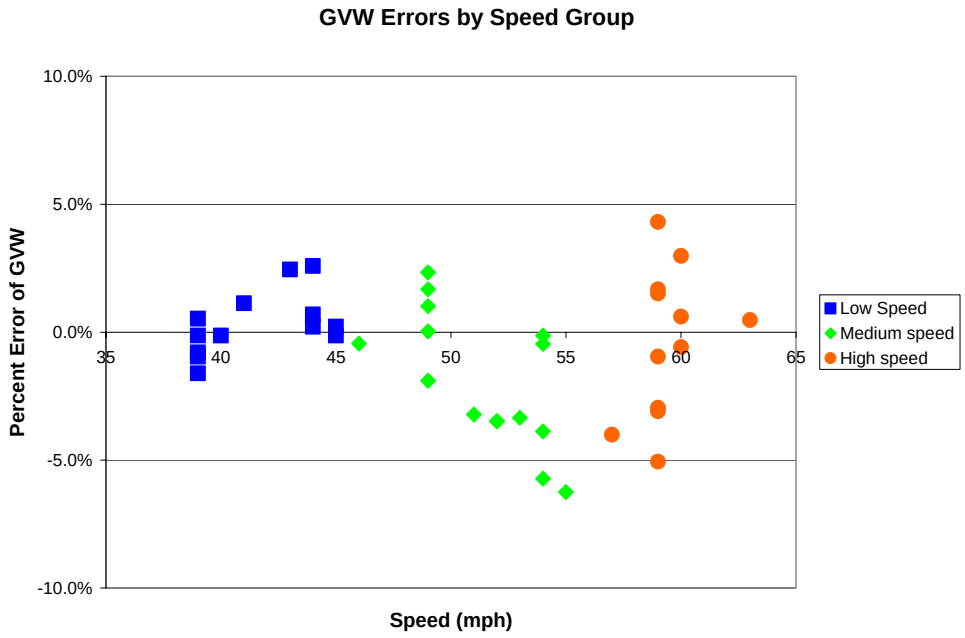

Figure 3-2 Post-validation GVW Percent Error vs. Speed – 170600 – 21-Sep-2006

Figure 3-3 shows the lack of relationship between temperature and GVW percentage error.

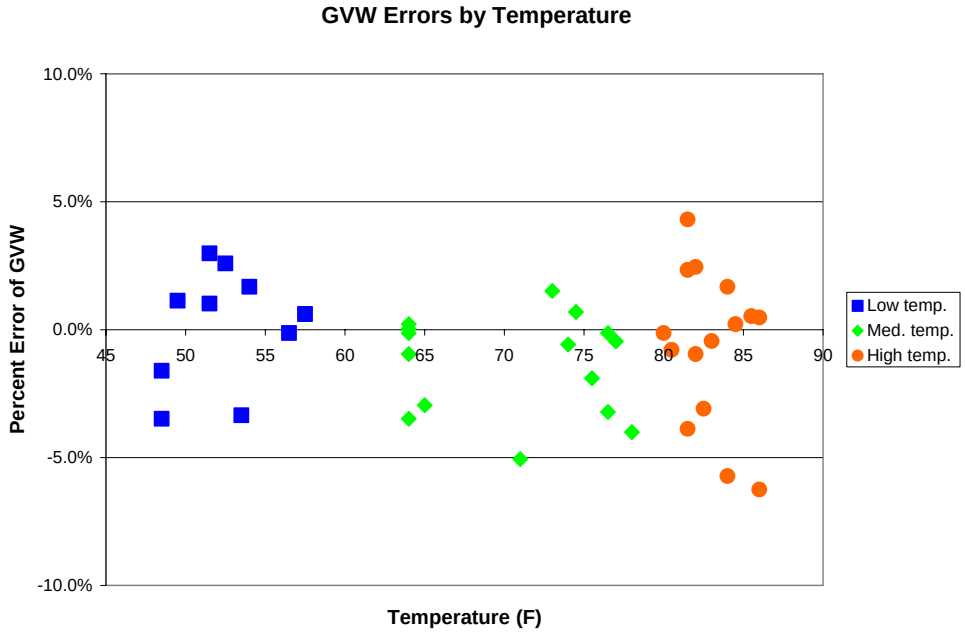

Figure 3-3 Post-Validation GVW Percent Error vs. Temperature – 170600 – 21-Sep-2006

Figure 3-4 shows the relationship between the drive tandem spacing errors in feet and speeds. This graph is used as a potential indicator of classification errors due to failure to correctly identify spacings on a vehicle. Since the most common reference value is the drive tandem on a Class 9 vehicle, this is the spacing evaluated and plotted for validations. The graph indicates that the errors in tandem spacings for the test trucks were not affected by changes in speed.

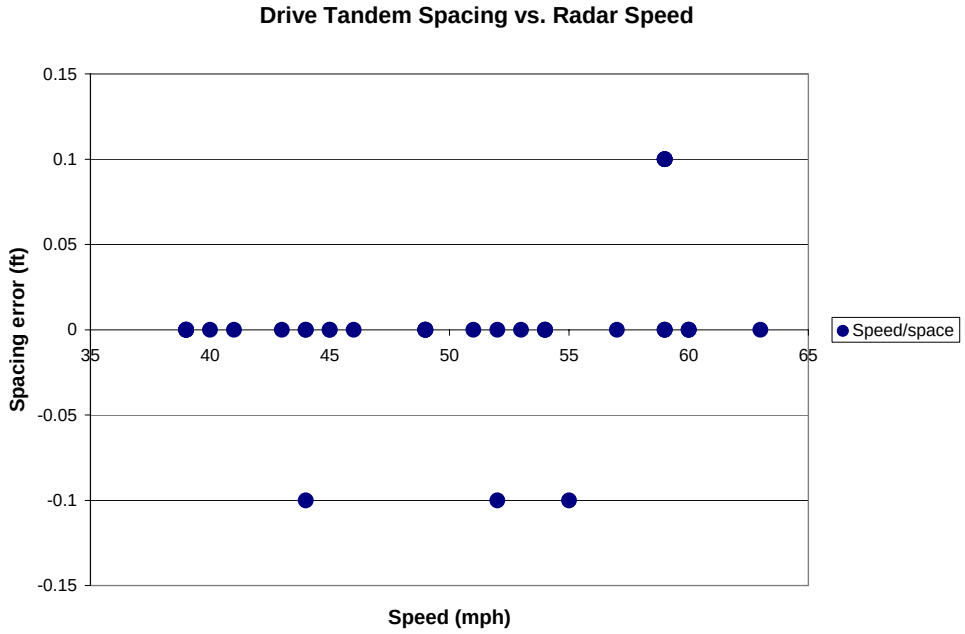

Figure 3-4 Post-Validation Spacing vs. Speed - 170600 – 21-Sep-2006

3.1 Temperature-based Analysis

The three temperature groups were created by splitting the runs between those at 48 to 59 degrees Fahrenheit for Low temperature, 60 to 77 degrees Fahrenheit for Medium temperature and 78 to 86 degrees Fahrenheit for High temperature.

Table 3-2 Post-Validation Results by Temperature Bin – 170600 –21-Sep-2006

Element	95% Limit	Low Temperature 48 - 59 °F	Medium Temperature 60 - 77 °F	High Temperature 78 - 86 °F
Steering axles	±20 %	-1.2 ± 13.2%	-6.1 ± 9.8%	-6.0 ± 9.0%
Tandem axles	±15 %	0.4 ± 6.7%	-0.6 ± 6.9%	0.3 ± 7.8%
GVW	±10 %	0.1 ± 5.2%	-1.4 ± 4.2%	-0.6 ± 6.4%
Speed	±1 mph	N/A	N/A	N/A
Axle spacing	± 0.5 ft	0.0 ± 0.1 ft	0.0 ± 0.1 ft	0.0 ± 0.1 ft

From Table 3-2, it appears that the underestimation of steering axle weights is greater at medium and high ranges when compared with the low range, however, variability in steering axle error is greater at the low end of the range when compared with medium and

high portions of the range. Other weights are estimated reasonably accurately throughout the range. The variability in tandem and GVW errors are fairly consistent for each over the entire temperature range.

There are no speed errors computed since the speed error was less than 1 mph in the pre-validation checks. Additional speed information was not collected (except for a small sample) during the post-validation check.

Figure 3-5 is the distribution of GVW Errors versus Temperature by Truck. From the figure, it appears that mean error is not particularly affected by temperature. There is some increase in variability at higher temperatures.

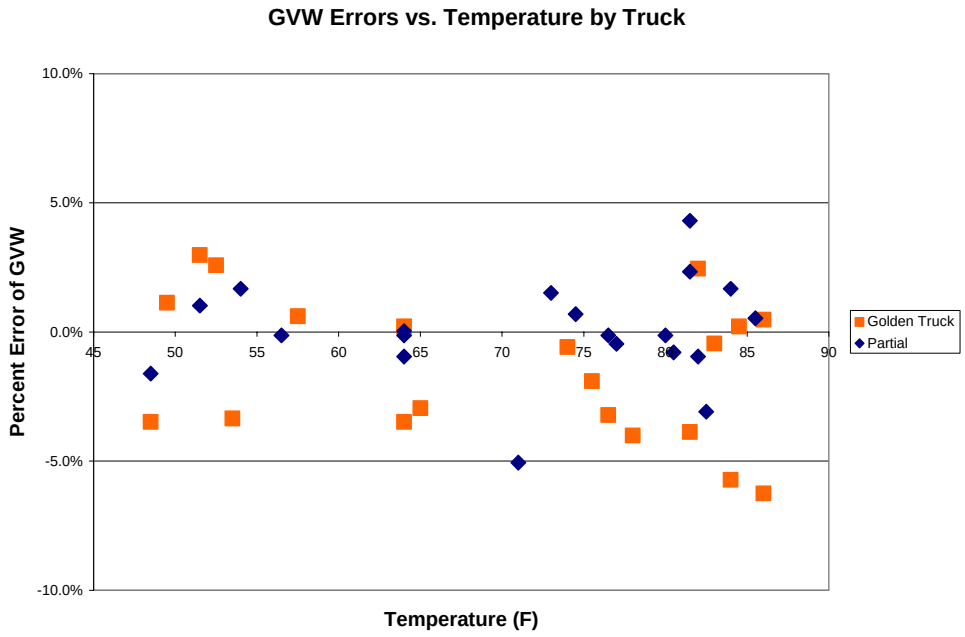

Figure 3-5 Post-Validation GVW Percent Error vs. Temperature by Truck – 170600 – 21-Sep-2006

Figure 3-6 shows the relation between steering axle errors and temperature. This graph is included due to the frequent use of steering axle weights of Class 9 vehicles for calibration. This site does not use auto-calibration. The steering axles in this graph are associated only with Class 9 vehicles.

From the figure, it can be seen that the equipment has a tendency to underestimate steering axle weights more as temperatures increase. Variability in steering axle error appears to be consistent throughout the entire speed range.

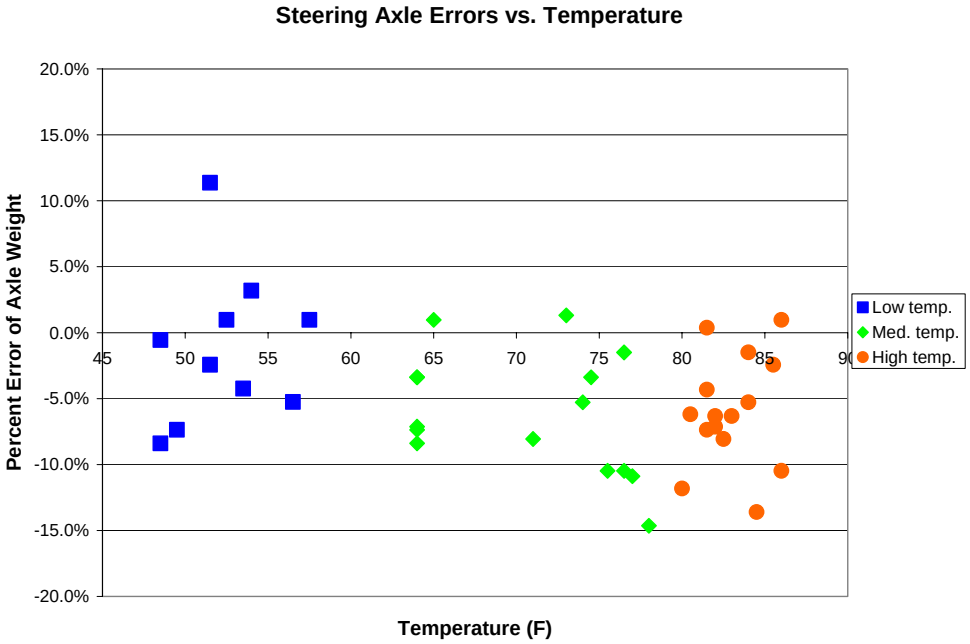

Figure 3-6 Post-Validation Steering Axle Error vs. Temperature by Group - 170600 – 21-Sep-2006

3.2 Speed-based Analysis

The speed groups were divided as follows: Low speed – 39 to 45 mph, Medium speed – 46 to 55 mph and High speed - 56+ mph.

Table 3-3 Post-Validation Results by Speed Bin – 170600 – 21-Sep-2006

Element	95% Limit	Low Speed 39 - 45 mph	Medium Speed 46 - 55 mph	High Speed 56+ mph
Steering axles	±20 %	-5.0 ± 8.4%	-7.0 ± 7.2%	-2.0 ± 15.1%
Tandem axles	±15 %	1.2 ± 5.6%	-0.9 ± 7.0%	-0.1 ± 8.4%
GVW	±10 %	0.3 ± 2.6%	-1.8 ± 5.6%	-0.4 ± 6.4%
Speed	±1 mph	N/A	N/A	N/A
Axle spacing	± 0.5 ft	0.0 ± 0.1 ft	0.0 ± 0.1 ft	0.0 ± 0.1 ft

From Table 3-3, it can be seen that the equipment tends to estimate tandem axle weights and GVW reasonably well at all speeds. For steering axles, the equipment tends to underestimate the weights at all speeds, especially at the low and medium speeds. Variability in tandem axle weight and GVW errors increases as speed increases. Steering axle variability is much greater at high speeds when compared with low and medium speeds. There are no speed errors computed since the speed error was less than 1 mph in the pre-validation checks. Additional speed information was not collected; except for a small sample during the post-validation check.

Figure 3-7 illustrates the tendency for the system to estimate GVW accurately for the partially loaded truck (diamonds) over the entire speed range. For the golden truck (squares), the equipment appears to underestimate GVW at the medium speeds. Variability appears to increase as speed increases. The figure suggests that there may be a pavement interaction effect for the golden truck.

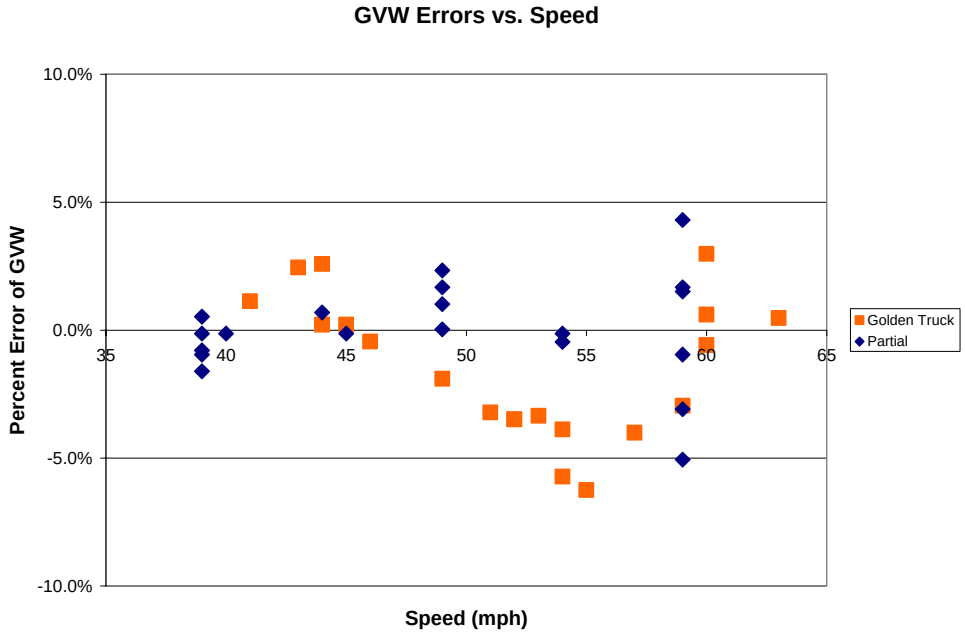

Figure 3-7 Post-Validation GVW Percent Error vs. Speed by Truck – 170600 – 21-Sep-2006

Figure 3-8 shows the relation between steering axle errors and speed. This graph is included due to the frequent use of steering axle weights of Class 9 vehicles for auto-calibration. This site does not use auto-calibration. The steering axles in this graph are associated only with Class 9 vehicles.

From the figure, it appears that the WIM equipment underestimates steering axle weights at low and medium speeds. Steering axles appear to be estimated accurately at high speeds, however, the variability of error is greater at high speeds when compared with low and medium speeds.

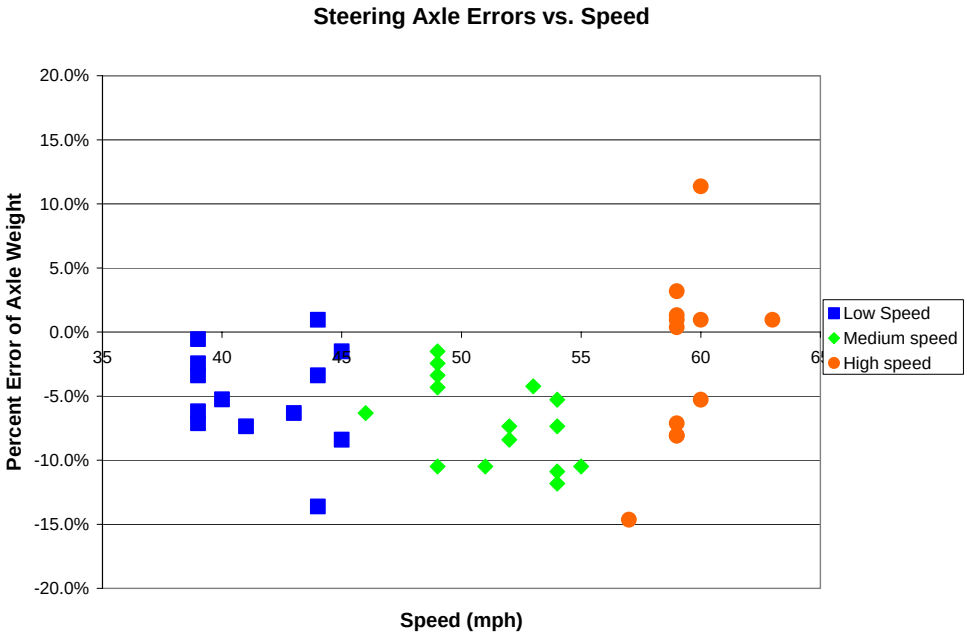

Figure 3-8 Post-Validation Steering Axle Percent Error vs. Speed by Group - 170600 – 21-Sep-2006

Figure 3-9 shows the tendency for the equipment to overestimate tandem axle weights over the entire speed range for both trucks. For the golden truck (squares), the tandem axle weight underestimation is much greater in the medium speed range. This suggests a possible vehicle dependent response to the pavement. Scatter for tandem axle error increases for the partial truck (diamonds) as speed increases, while tandem axle error scatter appears to be consistent over the entire speed range for the golden truck.

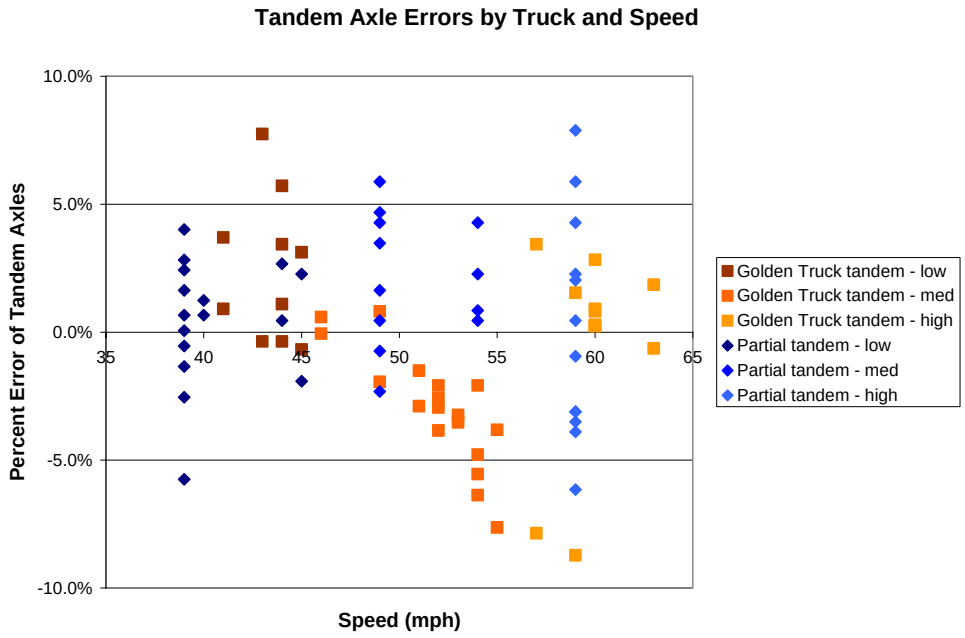

Figure 3-9 Post-Validation Tandem Axle Percent Error vs. Speed by Truck - 170600 - 21-Sep-2006

3.3 Classification Validation

This LTPP installed site uses the FHWA 13-bin classification scheme and the LTPP classification algorithm. Classification 0 has been added to define unclassified vehicles.

The classification validation is intended to find gross errors in vehicle classification, not to validate the installed algorithm. A sample of 100 trucks was collected at the site. Video was taken at the site to provide ground truth for the evaluation. Based on a 100 percent sample it was determined that there are 0 percent unknown vehicles and 0 percent unclassified vehicles.

The second check is the ability of the algorithm to correctly distinguish between truck classes with no more than 2% errors in such classifications. Table 3-4 has the classification error rates by class. The overall misclassification rate is 3.9%. The large error rates for Classes 4 and 5 are a reflection of the very small sample size (1 - Class 4 and 10 - Class 5s observed vs. 3 - Class 4s and 8 - Class 5s identified by the equipment).

Table 3-4 Truck Misclassification Percentages for 170600 - 20-Sep-2006

Class	Percent Error	Class	Percent Error	Class	Percent Error
4	67	5	20	6	0
7	N/A				
8	0	9	0	10	0
11	0	12	0	13	N/A

The misclassification percentage is computed as the probability that a pair containing the class of interest does NOT include a match. Thus if there are eight pairs of observations with at least one Class 9 and only six of them are matches, the error rate is 25 percent. The percent error and the mean differences reported below do not represent the same statistic. It is possible to have error rates greater than 0 with a mean difference of zero. The large mean error rates in Table 3-5 reflect the small number of vehicles in those classes in the sample.

Table 3-5 Truck Classification Mean Differences for 170600 - 20-Sep-2006

Class	Mean Difference	Class	Mean Difference	Class	Mean Difference
4	200	5	-20	6	0
7	N/A				
8	0	9	0	10	0
11	0	12	0	13	N/A

These error rates are normalized to represent how many vehicles of the class are expected to be over or under-counted for every hundred of that class observed by the equipment. Thus a value of 0 means the class is identified correctly on average. A number between –1 and –100 indicates at least that number of vehicles either missed or not assigned to the class by the equipment. It is not possible to miss more than all of them or one hundred out of one hundred. Numbers 1 or larger indicate at least how many more vehicles are assigned to the class than the actual "hundred observed". Classes marked Unknown are those identified by the equipment but no vehicles of the type were seen the observer. There is no way to tell how many more than those that might actually present exist. N/A means no vehicles of the class recorded by either the equipment or the observer. The classification errors are limited to Class 4 and 5 vehicles, which are not considered significant enough to fail the site as providing research quality data.

3.4 Evaluation by ASTM E-1318 Criteria

The ASTM E-1318 standard for a successful validation of Type I sites is 95% of the observed errors within the limits for allowable errors for each of the relevant statistics. If this site had been evaluated using ASTM E-1318-02 it would have met the conditions for a Type I site exclusive of wheel loads. LTPP does not validate WIM performance with respect to wheel loads.

Table 3-6 Results of Validation Using ASTM E-1318-02 Criteria

Characteristic	Limits for Allowable Error	Percent within Allowable Error	Pass/Fail
Single Axles	± 20%	100%	Pass
Axle Groups	± 15%	100%	Pass
GVW	± 10%	100%	Pass

4 Pavement Discussion

The pavement condition did not appear to influence truck movement across the sensors.

4.1 Profile analysis

The WIM site is a section of pavement that is 305 meters long with the WIM scale located at 274.5 meters from the beginning of the test section. An ICC profiler was used to collect longitudinal profiles of the test section with a sampling interval of 25 millimeters.

Profile data collected at the SPS WIM location by Stantec Consultants on June 4, 2006 were processed through the LTPP SPS WIM Index software, version 1.1. This WIM scale is installed in a rigid pavement.

A total of 11 profiler passes were conducted over the WIM site. Since the issuance of the LTPP directive on collection of longitudinal profile data for SPS WIM sections, the requirements have been a minimum of 3 passes in the center of the lane and one shifted to each side. For this site the RSC has completed 5 passes at the center of the lane, 3 passes shifted to the left side of the lane, and 3 passes shifted to the right side of the lane. Shifts to the sides of the lanes were made such that data were collected as close to the lane edges as was safely possible. For each profiler pass, profiles were recorded under the left wheel path (LWP) and the right wheel path (RWP).

The SPS WIM Index software, version 1.1 includes four different indices: LRI, SRI, Peak LRI and Peak SRI. The LRI incorporates the pavement profile starting 25.8 m prior to the scale and ending 3.2 m after the scale in the direction of travel. The SRI incorporates a shorter section of pavement profile beginning 2.74 m prior to the WIM scale and ending 0.46 m after the scale. The LRI and SRI are the index values for the actual location of the WIM scale. Peak LRI is the highest value of LRI, within 30 m prior to the scale. Peak SRI indicates the highest value of SRI that is located between 2.45 m prior to the scale and 1.5 m after the scale. Also, a range for each of the indices was developed to provide the smoothness criteria. The ranges are shown in Table 4-1. When all of the values are below the lower thresholds, it is presumed unlikely that pavement smoothness will significantly influence sensor output. When one or more values exceed an upper threshold there is a reasonable expectation that the pavement smoothness will influence the outcome of the validation. When all values are below the upper threshold but not all below the lower threshold, the pavement smoothness may or may not influence the validation outcome.

Table 4-1 Thresholds for WIM Index Values

Index	Lower Threshold (m/km)	Upper Threshold (m/km)
LRI	0.50	2.1
SRI	0.50	2.1
Peak LRI	0.50	2.1
Peak SRI	0.75	2.9

Table 4-2 shows the computed index values for all 11 profiler passes for this WIM site. The average values over the passes in each path were also calculated when three or more passes were completed. These are shown in the right most column of the table. Values above the upper index limits are presented in bold and values below the lower index limits are presented in italics.

Table 4-2 WIM Index Values - 170600 –04-Jun-2006

Profiler Passes			**Pass 1**	**Pass 2**	**Pass 3**	**Pass 4**	**Pass 5**	**Ave.**
Center	LWP	LRI (m/km)	0.569	0.675	0.552	0.616	0.649	0.612
		SRI (m/km)	0.515	*0.401*	*0.447*	*0.452*	0.567	*0.476*
		Peak LRI (m/km)	0.676	0.700	0.648	0.662	0.658	0.669
		Peak SRI (m/km)	*0.534*	*0.524*	*0.479*	*0.606*	*0.584*	*0.545*
	RWP	LRI (m/km)	0.624	0.601	0.618	0.532	0.581	0.591
		SRI (m/km)	*0.498*	*0.320*	0.714	*0.344*	*0.487*	*0.473*
		Peak LRI (m/km)	0.658	0.706	0.672	0.657	0.673	0.673
		Peak SRI (m/km)	0.894	*0.569*	1.229	*0.615*	*0.680*	0.797
Left Shift	LWP	LRI (m/km)	*0.489*	0.578	*0.460*			0.509
		SRI (m/km)	*0.389*	*0.469*	*0.305*			*0.389*
		Peak LRI (m/km)	0.665	0.647	0.599			0.637
		Peak SRI (m/km)	*0.524*	*0.597*	*0.486*			*0.536*
	RWP	LRI (m/km)	0.603	0.664	0.870			0.712
		SRI (m/km)	1.070	0.975	1.734			1.260
		Peak LRI (m/km)	0.603	0.665	0.880			0.716
		Peak SRI (m/km)	1.392	1.313	2.310			1.672
Right Shift	LWP	LRI (m/km)	0.555	0.576	*0.447*			0.526
		SRI (m/km)	*0.479*	0.664	*0.318*			*0.487*
		Peak LRI (m/km)	0.642	0.641	0.608			0.630
		Peak SRI (m/km)	0.771	*0.709*	*0.429*			*0.636*
	RWP	LRI (m/km)	0.550	*0.469*	0.528			0.516
		SRI (m/km)	*0.475*	*0.379*	*0.365*			*0.406*
		Peak LRI (m/km)	0.642	0.603	0.627			0.624
		Peak SRI (m/km)	*0.652*	*0.549*	*0.557*			*0.586*

From Table 4-2 it can be seen that many of the SRI and peak SRI values fall below the lower threshold level. The LRI values predominantly fall between the two threshold levels. These values indicate that the pavement profile may or may not influence the WIM scale output. Since the scale could be validated as providing research quality data, no recommendation is made here for any remediation to the pavement at this site.

The profile data evaluated was collected after the last validation visit. There is no profile evaluation for conditions prior to that visit since the system was a new installation.

4.2 Distress survey and any applicable photos

During a visual survey of the pavement, no distresses that would influence truck movement across the WIM scales were noted.

4.3 Vehicle-pavement interaction discussion

A visual observation of the trucks as they approach, transverse and leave the sensor area did not indicate any visible motion of the trucks that would affect the performance of the WIM scales. Trucks appear to track down the wheel path and daylight cannot be seen between the tires and any of the sensors for the equipment.

5 Equipment Discussion

The traffic monitoring equipment at this location includes IRD/PAT Traffic bending plate WIM sensors and WIM controller. These sensors are installed in a staggered configuration in a portland concrete cement pavement approximately 500 feet in length. The roadway outside this short section is asphalt. The SPS-6 experiment is asphalt overlay of concrete but whether the WIM location is within the overlaid area has not been investigated.

All equipment and sensors were installed in July 2005 as part of the SPS WIM Phase II contract.

Since the last Validation visit on September 7, 2005, the weigh-pad analyzer board was replaced due to failure. No subsequent calibration or validation was performed and therefore the quality of the data based on field validation cannot be determined.

5.1 Pre-Evaluation Diagnostics

A complete electronic and electrical check of all system components including in-road sensors, electrical power, and telephone service were performed immediately prior to the evaluation. All sensors and system components were found to be within operating parameters.

A complete visual inspection of all WIM system and support components was also performed. All components appear to be in good physical condition.

5.2 Calibration Process

The equipment required one-iteration of the calibration process between the initial 40 runs and the final 40 runs.

Although a calibration of the equipment was not required, a discernable trend of overestimation to underestimation of GVW as speeds increased was observed. An improvement of the statistics was desired and so the adjustments were made prior to performing the Post-Validation runs.

5.2.1 Calibration Iteration 1

For this equipment, there are 5 speed designated weight compensation factors that are adjusted to directly affect the weight reported by the WIM equipment. To reduce overestimation of weights these factors are reduced by the same percentage of the overestimation, and if the weights are underestimated, these factors are increased by the same percentage as the mean error.

For this equipment, the original compensation factors were:

- 50 mph – 3710
- 55 mph – 3740
- 60 mph – 3745
- 65 mph – 3711
- 70 mph – 3641

The results of the Post-Validation from September 8, 2005 are illustrated in Figure 5-1. At that time, the equipment demonstrated a tendency to underestimate GVW at medium speeds and overestimate GVW at high speeds. Scatter appeared to be consistent over the entire speed range.

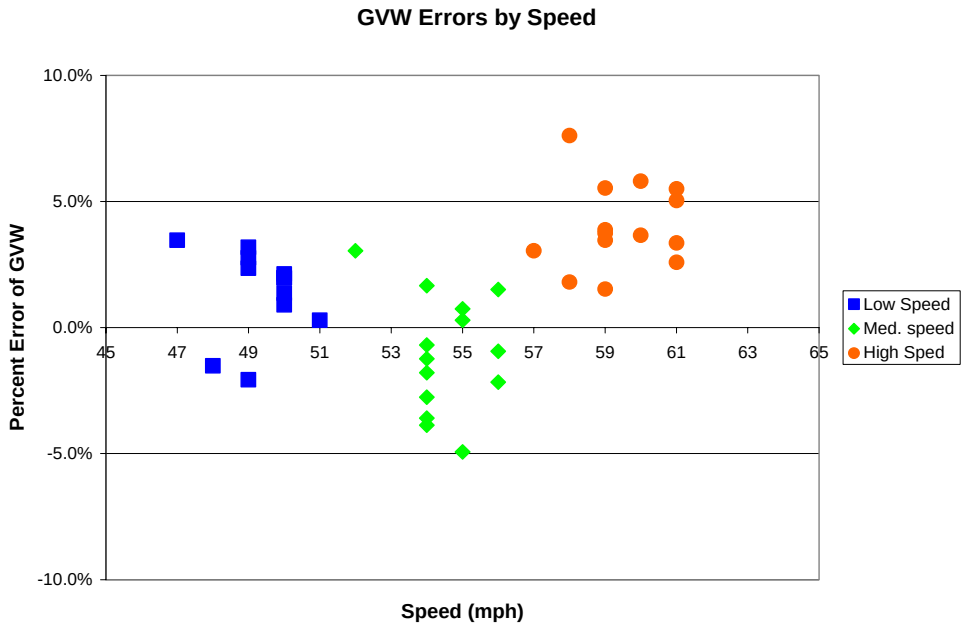

Figure 5-1 Post-Validation GVW Percent Error vs. Speed – 170600 – 08-Sep-2005

The results of the Pre-Validation for this visit are illustrated in Figure 5-2. As can be seen in the figure, GVW is increasingly underestimated from medium to high speeds.

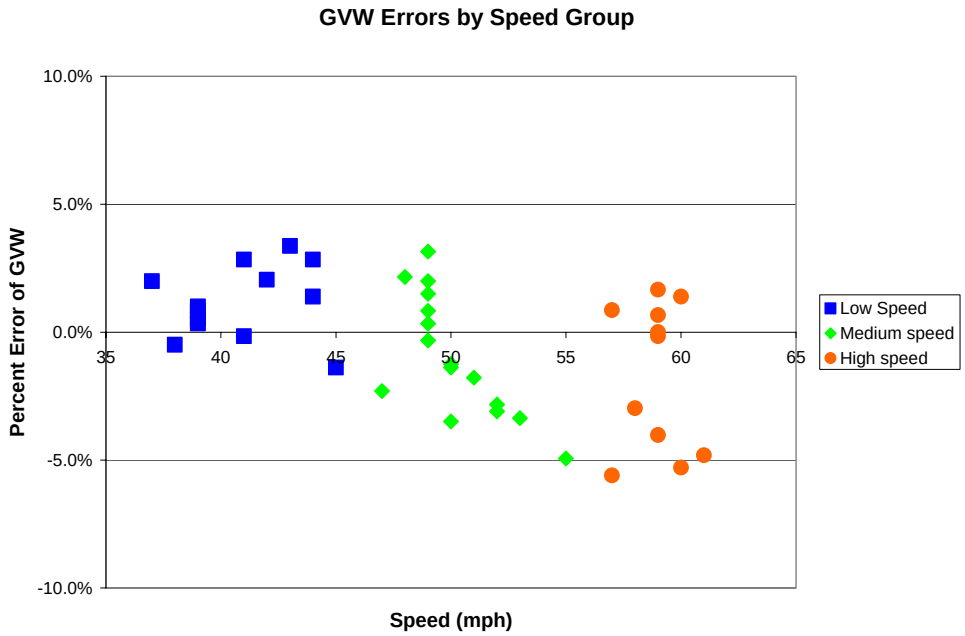

Figure 5-2 Pre-Validation GVW Percent Error vs. Speed – 170600 – 20-Sep-2006

Based on the results from the Post-Validation of September 8, 2005, which produced an error range of -5.0% to +7.5%, and the results of the September 20, 2006 Pre-Validation runs, where the 40 pre-calibration runs performed by the two test trucks produced a range of -6.0% to +3.5% for the average GVW error, the compensation factors were adjusted as follows:

- 50 mph – remained at 3710
- 55 mph – increased 1% to 3780
- 60 mph – increased 2% to 3815
- 65 mph – increased 2.4% to 3800
- 70 mph – increased 2.2% to 3720

Computations for the changes were made by the Phase II Contractor. Mr. Bruce Myers was contacted by phone and subsequently dialed into the site to view the data, compute the factors and make the factor changes. There were no agency personnel on-site to review or execute the modifications.

Results of the first iteration are shown in Table 5-1.

Table 5-1 Calibration Iteration 1 Results - 170600 – 21-Sep-2006 (beginning 7:42 AM)

SPS-1, -2, -5, -6 and -8	95 %Confidence Limit of Error	Site Values	Pass/Fail
Steering axles	±20 percent	-2.0 ± 13.7%	Pass
Tandem axles	±15 percent	0.4 ± 7.2%	Pass
GVW	±10 percent	0.0 ± 5.2%	Pass
Speed	±1 mph	N/A	
Axle spacing	± 0.5 ft	0.0 ± 0.1 ft	Pass

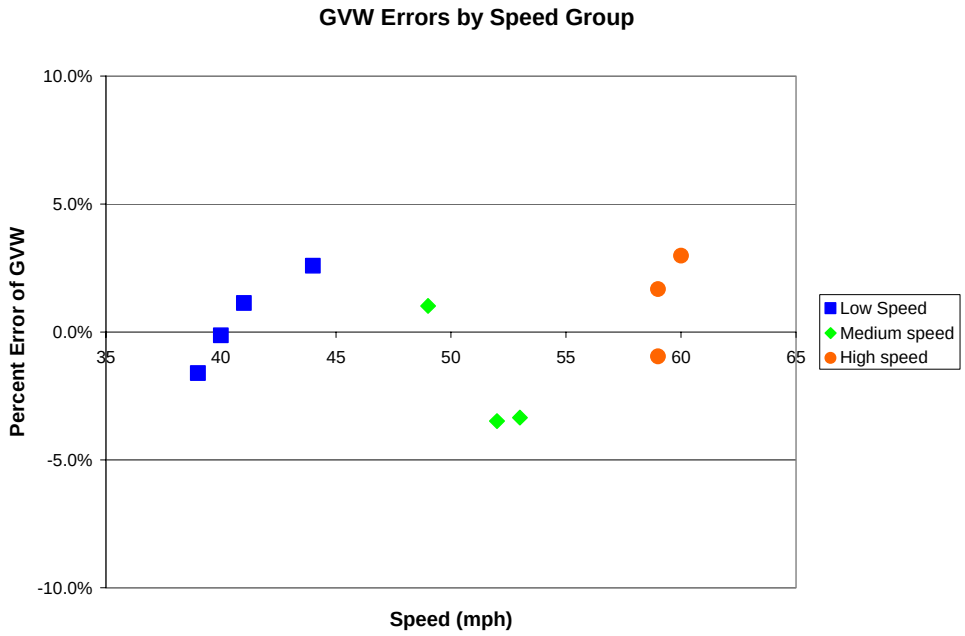

Figure 5-3 Calibration Iteration 1 GVW Percent Error vs. Speed Group - 170600 – 21-Sep-2006 (beginning 7:42 AM)

5.3 Summary of Traffic Sheet 16s

This site has validation information from previous visits as well as the current one in the tables below. Table 5-2 has the information found in TRF_CALIBRATION_AVC for Sheet 16s submitted prior to this validation as well as the information for the current visit.

Table 5-2 Classification Validation History - 170600 –21-Sep-2006

Date	Method	Mean Difference				Percent Unclassified
		Class 9	Class 8	Other 1	Other 2	
09/21/2006	Test Trucks	0.0	0.0			0.0
09/19/2006	Test Trucks	0.0	0.0			0.0
09/08/2005	Test Trucks	0.0	0.0			0.0
09/07/2005	Test Trucks	0.0	0.0			0.0

Table 5-3 has the information found in TRF_CALIBRATION_WIM for site visits and Sheet 16s submitted prior to this validation as well as the information for the current visit.

Table 5-3 Weight Validation History - 170600 –21-Sep-2006

Date	Method	Mean Error and (SD)		
		GVW	Single Axles	Tandem Axles
09/21/2006	Test Trucks	-0.7 (2.5)	-4.8 (5.1)	0.0 (3.5)
09/20/2006	Test Trucks	-0.4 (2.5)	-3.4 (4.4)	0.1 (3.7)
09/08/2005	Test Trucks	1.5 (2.9)	-3.0 (6.5)	2.4 (3.5)
09/07/2005	Test Trucks	1.6 (2.6)	-3.5 (5.2)	2.6 (3.6)

Mean GVW and single axle errors appear to have remained reasonably consistent since the equipment installation in 2005 while mean tandem axle errors have been reduced. Variability in errors appears to have remained constant for all weights.

5.4 Projected Maintenance/Replacement Requirements

There are no corrective maintenance actions required at this site at this time.

Under a separate LTPP contract, this site is to be visited semi-annually for routine preventive equipment diagnostics and inspection. Annual validations are also anticipated.

IRD provided information on past maintenance and a key parameters summary for August 15, 2005 through September 30, 2006. While it was noted that the key statistics did not change before and after the replacement of a scale card April 29th, 2006; there are other points in time where the key parameters are highly unusual. The value for average Class 9 (weight presumably) generally triples and the number of Class 9s declines about sixty percent; at the point where the records note “flash card filled and system stopped collecting data”. There are nearly 30 day of missing or suspect data as a result in the late June through August time frame. Elimination of this condition would be advisable.

6 Pre-Validation Analysis

This pre-validation analysis is based on test runs conducted September 21, 2006 from early morning until late afternoon at test site 170600 on Interstate 57. This SPS-6 site is at milepost 225.6 on the northbound, right hand lane of a divided four-lane facility. No auto-calibration was used during test runs. The two trucks used for initial validation were:

1. 5-axle tractor semi-trailer combination with a tractor having an air suspension and trailer with standard rear tandem and air suspension loaded to 75,850 lbs, the golden truck.
2. 5-axle tractor semi-trailer combination with a tractor having air suspension and trailer with a standard rear tandem and tapered leaf suspension loaded to 60,400 lbs, the partially loaded truck.

For the initial validation, each truck made a total of 20 passes over the WIM scale at speeds ranging from approximately 37 to 60 miles per hour. The desired speed range was achieved during this validation. Pavement surface temperatures were recorded during the test runs ranging from about 59 to 87 degrees Fahrenheit. The 28 degree temperature range was slightly less than the desired 30 degree Fahrenheit temperature range. The computed values of 95% confidence limits of each statistic for the total population are within Table 6-1.

As seen in Table 6-1, the site passed all of the performance criteria for research quality data. As a result of the Pre-Validation, a bias was observed for both test trucks at the medium and high speeds, and it was determined that additional adjustment could further improve the overall quality of the data.

Table 6-1 Pre-Validation Results - 170600 – 20-Sep-2006

SPS-1, -2, -5, -6 and -8	95 %Confidence Limit of Error	Site Values	Pass/Fail
Steering axles	±20 percent	-3.4 ± 8.9%	Pass
Tandem axles	±15 percent	0.1 ± 7.4%	Pass
GVW	±10 percent	-0.4 ± 5.1%	Pass
Speed	±1 mph [2 km/hr]	-0.1 ± 0.5 mph	Pass
Axle spacing	± 0.5 ft [150mm]	0 ± 0.1 ft	Pass

The test runs were conducted primarily during the early morning to late afternoon hours, resulting in a reasonably wide range of pavement temperatures. The runs were also conducted at various speeds to determine the effects of these variables on the performance of the WIM scale. To investigate these effects, the dataset was split into three speed groups and three temperature groups. The distribution of runs by speed and temperature is illustrated in Figure 6-1. The figure indicates that the desired distribution of speed and temperature combinations was achieved for this set of validation runs.

The speed groups were divided as follows: Low speed – 37 to 45 mph, Medium speed – 46 to 55 mph and High speed - 56+ mph. The three temperature groups were created by

splitting the runs between those at 59 to 69 degrees Fahrenheit for Low temperature, 70 to 79 degrees Fahrenheit for Medium temperature and 80 to 87 degrees Fahrenheit for High temperature.

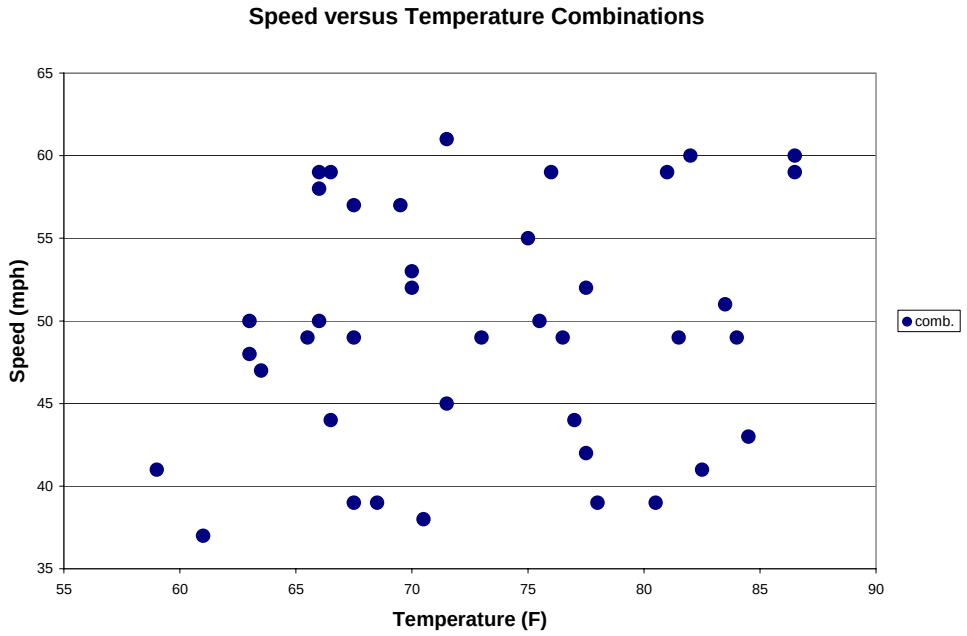

Figure 6-1 Pre-Validation Speed-Temperature Distribution – 170600 – 20-Sep-2006

A series of graphs was developed to investigate visually for any sign of any relationship between speed or temperature and the scale performance.

Figure 6-2 shows the GVW Percent Error vs. Speed graph for the population as a whole. The figure illustrates the tendency for the equipment to overestimate GVW at low speeds and then increasingly underestimate GVW as speed increases. Variability appears to increase as speed increases.

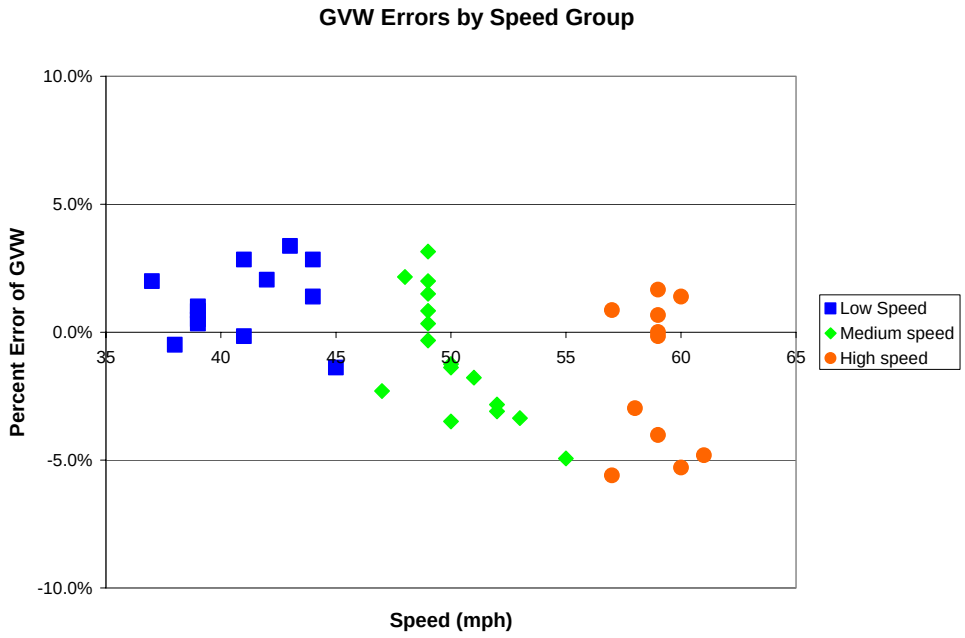

Figure 6-2 Pre-validation GVW Percent Error vs. Speed– 170600 –20-Sep-2006

Figure 6-3 shows the lack of relationship between temperature and GVW percentage error. From the figure, it appears that the GVW is measured reasonably accurately over the entire temperature range. Variability in error is fairly consistent over the entire temperature range.

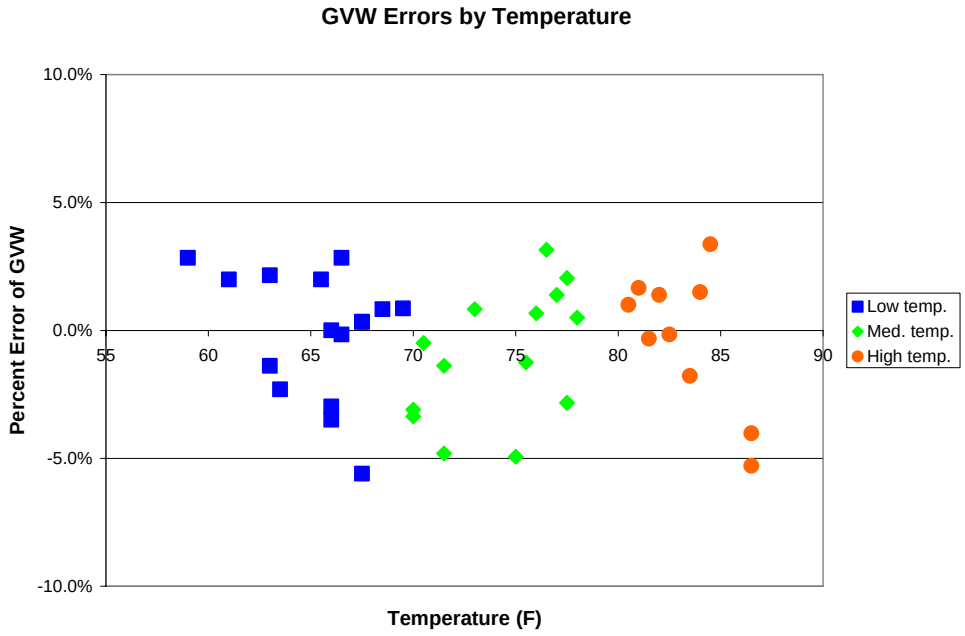

Figure 6-3 Pre-Validation GVW Percent Error vs. Temperature – 170600 –20-Sep-2006

Figure 6-4 shows the relationship between the drive tandem spacing errors in feet and speeds. This graph is used as a potential indicator of classification errors due to failure to correctly identify spacings on a vehicle. Since the most common reference value is the drive tandem on a Class 9 vehicle, this is the spacing evaluated and plotted for validations. The graph indicates that the errors in tandem spacings for the test trucks were not affected by changes in speed.

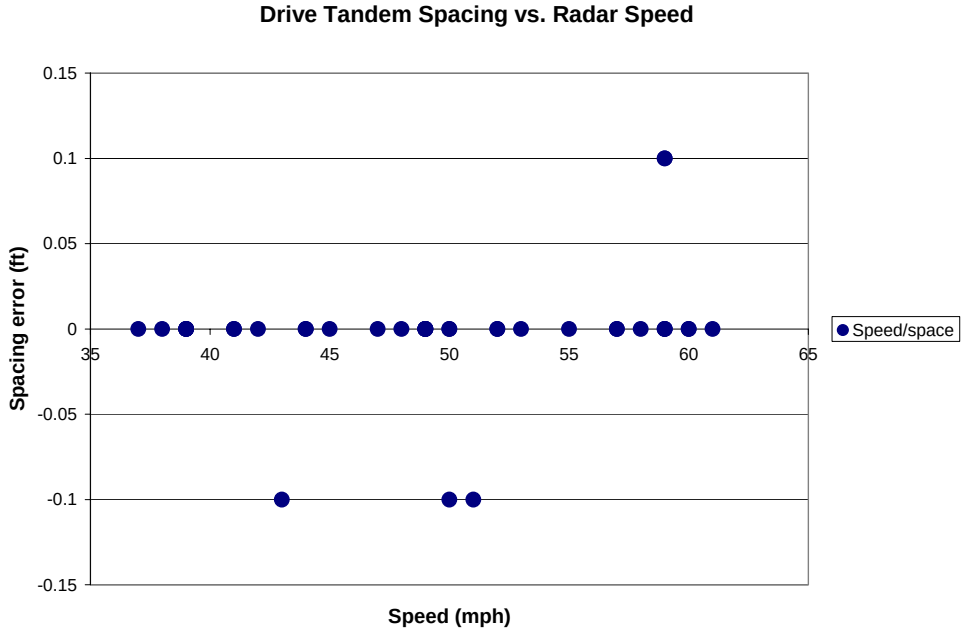

Figure 6-4 Pre-Validation Spacing vs. Speed - 170600 – 20-Sep-2006

6.1 Temperature-based Analysis

The three temperature groups were created by splitting the runs between those at 59 to 69 degrees Fahrenheit for Low temperature, 70 to 79 degrees Fahrenheit for Medium temperature and 80 to 87 degrees Fahrenheit for High temperature.

Table 6-2 Pre-Validation Results by Temperature Bin - 170600 –20-Sep-2006

Element	95% Limit	Low Temperature 59 - 69 °F	Medium Temperature 70 - 79 °F	High Temperature 80 - 87 °F
Steering axles	±20 %	-3.3 ± 8.4%	-3.1 ± 7.4%	-3.8 ± 14.3%
Tandem axles	±15 %	0.4 ± 6.9%	-0.6 ± 7.1%	0.4 ± 9.6%
GVW	±10 %	-0.1 ± 5.2%	-1.0 ± 5.5%	-0.3 ± 6.1%
Speed	±1 mph	-0.1 ± 0.7 mph	-0.1 ± 0.6 mph	0 ± 0 mph
Axle spacing	± 0.5 ft	0 ± 0.1 ft	0 ± 0.1 ft	0 ± 0.1 ft

From Table 6-2, it can be seen that all weights are estimated consistently throughout the entire temperature range, although steering axle weights are underestimated. Variability in steering axle weights appears to be much higher at the higher end of the temperature

range when compared to the lower end. For tandem axles and GVW, variability in error increases as temperature increases.

Figure 6-5 has the distribution of GVW Errors versus Temperature by Truck. The equipment appears to produce a generally accurate estimation of the partial truck (diamonds) GVW over the observed temperature range. For the golden truck (squares), the equipment appears to underestimate evenly over the temperature range. The variability in error for the golden truck appears to be greater over the temperature range when compared with the partial truck error variability.

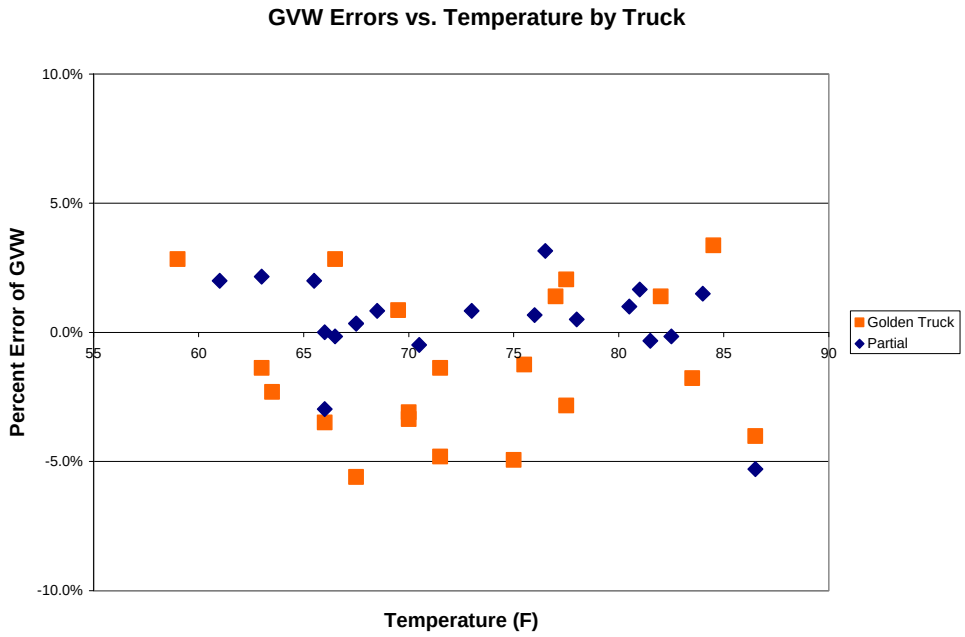

Figure 6-5 Pre-Validation GVW Percent Error vs. Temperature by Truck – 170600 –20-Sep-2006

Figure 6-6 shows the relation between steering axle errors and temperature. This graph is included due to the frequent use of steering axle weights of Class 9 vehicles for auto-calibration. This site does not use auto-calibration. The steering axles in this graph are associated only with Class 9 vehicles.

The figure shows that steering axle weights are consistently underestimated by the equipment over the temperature range; however, variability in error appears to be higher at the high end of the temperature range when compared to low end.

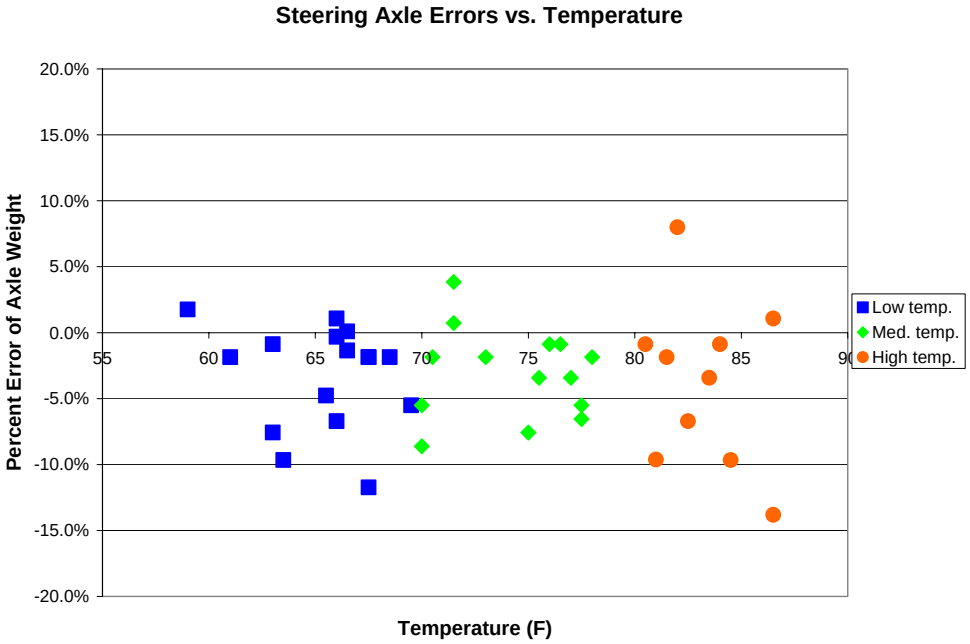

Figure 6-6 Pre-Validation Steering Axle Error vs. Temperature by Group - 170600 –20-Sep-2006

6.2 Speed-based Analysis

The speed groups were divided as follows: Low speed – 37 to 45 mph, Medium speed – 46 to 55 mph and High speed - 56+ mph.

Table 6-3 Pre-Validation Results by Speed Bin - 170600 –20-Sep-2006

Element	95% Limit	Low Speed 37 – 45 mph	Medium Speed 46 - 55 mph	High Speed 56+ mph
Steering axles	±20 %	-2.6 ± 6.7%	-4.1 ± 6.6%	-3.1 ± 15.3%
Tandem axles	±15 %	1.9 ± 5.3%	-0.4 ± 5.9%	-1.4 ± 10.5%
GVW	±10 %	1.2 ± 3.1%	-0.9 ± 5.1%	-1.7 ± 6.4%
Speed	±1 mph	-0.1 ± 0.6 mph	-0.1 ± 0.7 mph	0 ± 0 mph
Axle spacing	± 0.5 ft	0 ± 0.1 ft	0 ± 0.1 ft	0 ± 0.1 ft

From Table 6-3, it can be seen that mean errors for tandem axle weights and GVW are generally consistent over the observed speed range, with slight overestimation by the equipment at low speeds, and slight overestimation at medium and high speeds. Variability in these errors increased as speed increased. For steering axle weights, the equipment produced an underestimation at all speeds and variability is much greater at high speeds when compared to low and medium speeds.

Figure 6-7 illustrates the tendency of the equipment to overestimate GVW for both trucks at low and medium speeds. As speeds increase from the medium range, GVW error for

both trucks is increasingly underestimated. Variability in GVW error appears to increase slightly for both trucks as speed increases.

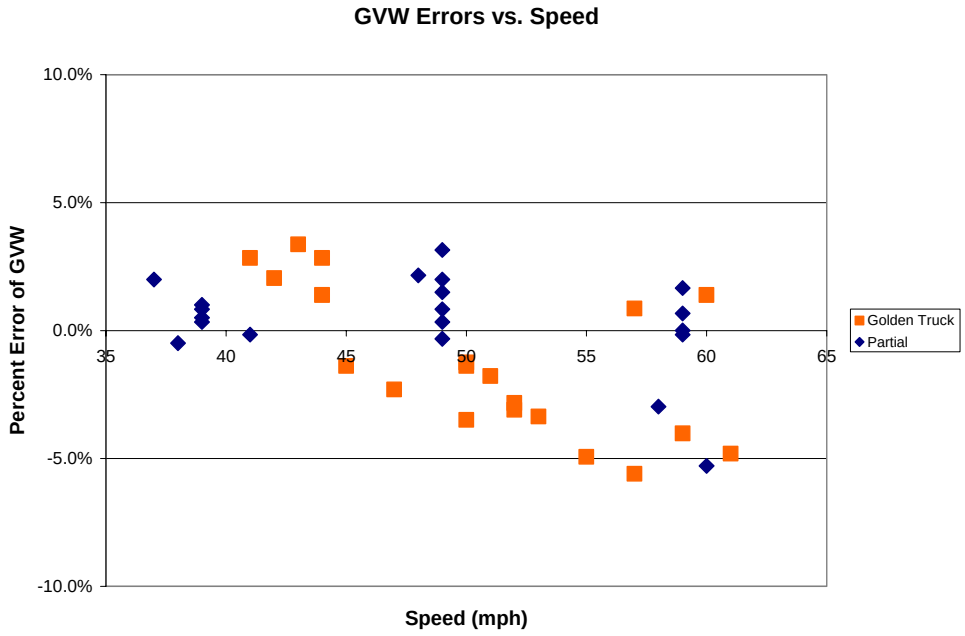

Figure 6-7 Pre-Validation GVW Percent Error vs. Speed Group - 170600 –20-Sep-2006

Figure 6-8 shows the relation between steering axle errors and speed. This graph is included due to the frequent use of steering axle weights of Class 9 vehicles for auto-calibration. This site does not use auto-calibration. The steering axles in this graph are associated only with Class 9 vehicles.

From the figure, it appears that the equipment generally underestimates steering axle weights throughout the entire speed range, with a slight tendency to increasingly underestimate weights as speed increases.

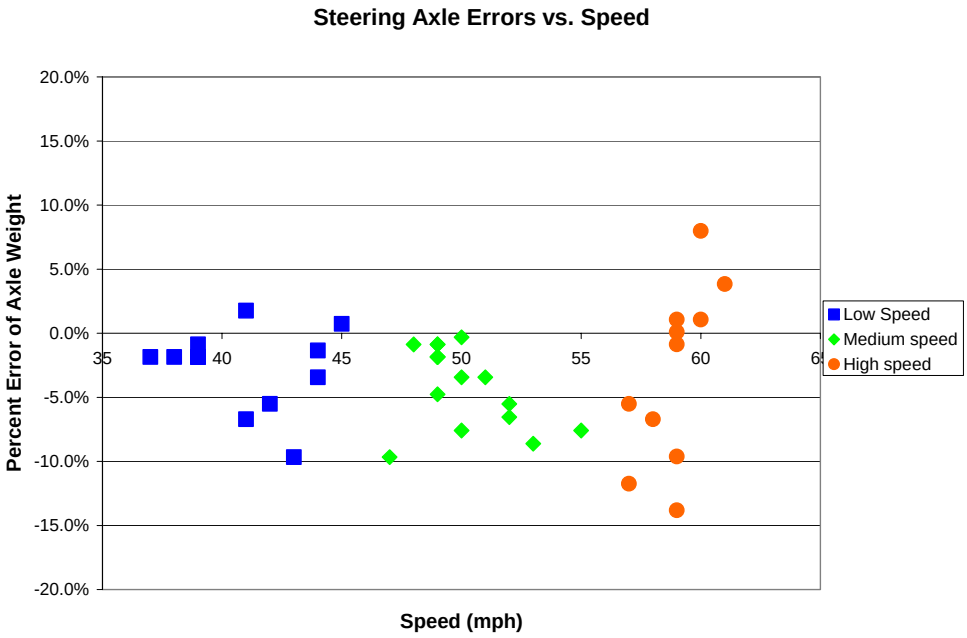

Figure 6-8 Pre-Validation Steering Axle Percent Error vs. Speed Group - 170600 – 20-Sep-2006

Figure 6-9 shows the tendency for the equipment to overestimate tandem axle weights at the low to medium speeds for both trucks. From the medium to high speeds, the equipment increasingly underestimates tandem axle weights for the golden truck (squares). Scatter for tandem axle error appears to increase for both trucks as speed increases.

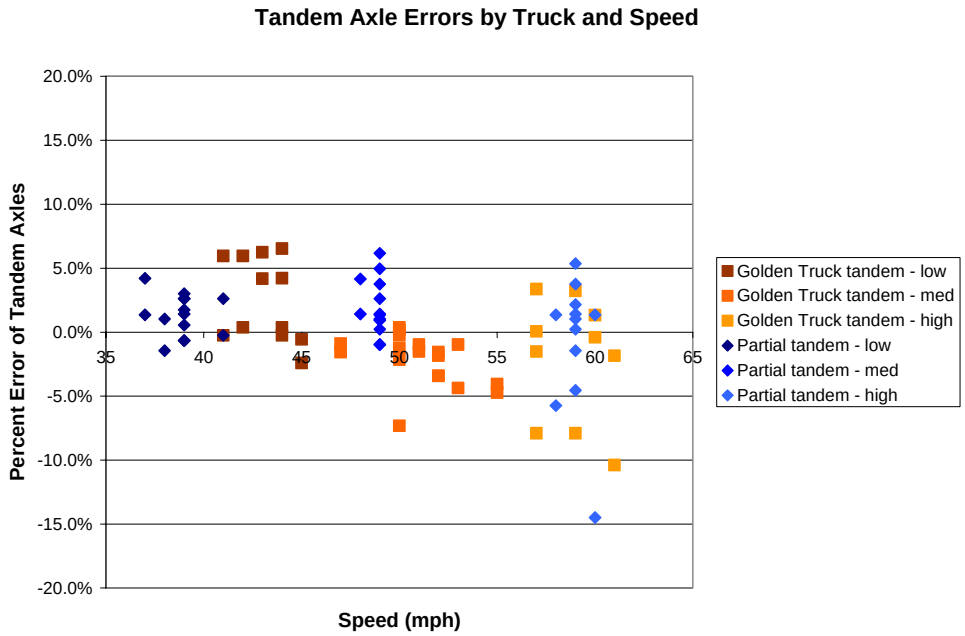

Figure 6-9 Pre-Validation Tandem Axle Percent Error by Truck vs. Speed Group - 170600 –20-Sep-2006

6.3 Classification Validation

This LTPP installed site uses the FHWA 13-bin classification scheme and the LTPP classification algorithm. Classification 0 has been added to define unclassified vehicles.

The classification validation is intended to find gross errors in vehicle classification, not to validate the installed algorithm. A sample of 100 trucks was collected at the site. Video was taken at the site to provide ground truth for the evaluation. Based on a 100 percent sample it was determined that there are 0 percent unknown vehicles and 0 percent unclassified vehicles.

The second check is the ability of the algorithm to correctly distinguish between truck classes with no more than 2% errors in such classifications. Table 6-4 has the classification error rates by class. The overall misclassification rate is 5.7%. The large size of the errors reflects the small number of vehicles in Classes 3, 4 and 5 included in the sample. There were twelve vehicles observed in those three classifications where the misclassifications occurred.

Table 6-4 Truck Misclassification Percentages for 170600 - 20-Sep-2006

Class	Percent Error	Class	Percent Error	Class	Percent Error
4	50	5	44	6	0
7	0				
8	0	9	0	10	0
11	N/A	12	0	13	0

The misclassification percentage is computed as the probability that a pair containing the class of interest does NOT include a match. Thus if there are eight pairs of observations with at least one Class 9 and only six of them are matches, the error rate is 25 percent. The percent error and the mean differences reported below do not represent the same statistic. It is possible to have error rates greater than 0 with a mean difference of zero.

Table 6-5 Truck Classification Mean Differences for 170600 - 20-Sep-2006

Class	Mean Difference	Class	Mean Difference	Class	Mean Difference
4	100	5	-44	6	0
7	0				
8	0	9	0	10	0
11	N/A	12	0	13	0

These error rates are normalized to represent how many vehicles of the class are expected to be over- or under-counted for every hundred of that class observed by the equipment. Thus a value of 0 means the class is identified correctly on average. A number between –1 and –100 indicates at least that number of vehicles either missed or not assigned to the class by the equipment. It is not possible to miss more than all of them or one hundred out of one hundred. Numbers 1 or larger indicate at least how many more vehicles are assigned to the class than the actual "hundred observed". Classes marked Unknown are those identified by the equipment but no vehicles of the type were seen the observer. There is no way to tell how many more than those that might actually present exist. N/A means no vehicles of the class recorded by either the equipment or the observer. The misclassifications are limited to light trucks, FHWA classes 3 through 5 and are not considered significant enough to fail the site as providing research quality classification data.

6.4 Evaluation by ASTM E-1318 Criteria

The ASTM E-1318 standard for a successful validation of Type I sites is 95% of the observed errors within the limits for allowable errors for each of the relevant statistics. If this site had been evaluated using ASTM E-1318-02 it would have met the conditions for a Type I site exclusive of wheel loads. LTPP does not validate WIM performance with respect to wheel loads.

Table 6-6 Results of Validation Using ASTM E-1318-02 Criteria

Characteristic	Limits for Allowable Error	Percent within Allowable Error	Pass/Fail
Single Axles	± 20%	100%	Pass
Axle Groups	± 15%	100%	Pass
GWV	± 10%	100%	Pass

6.5 Prior Validations

The last validation for this site was done September 7th and 8th, 2005. It was the first validation of the site after installation. The site was producing research quality data. Figure 6-10 shows the GVW Percent Error vs. Speed for the post validation runs. The site was validated with two trucks. The "Golden" truck was loaded to 72,600 lbs. The "Partial" truck which had air suspension on both tandems was loaded to 65,400 lbs.

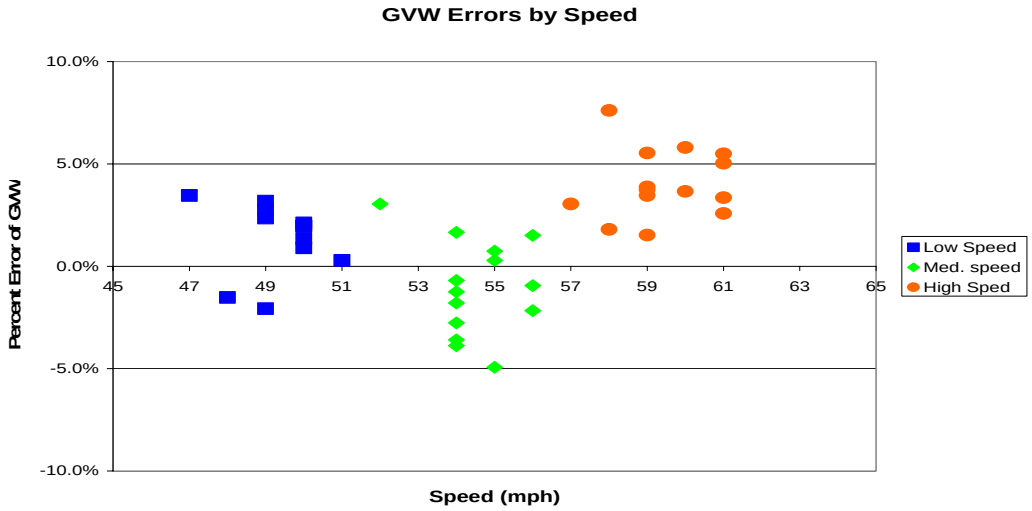

Figure 6-10 Post-Validation GVW Percent Error vs. Speed – 170600 – 08-Sep-2005

Table 6-7 shows the overall results from the last validation.

Table 6-7 Post-Validation Results - 170600 – 08-Sep-2005

SPS-1, -2, -5, -6 and -8	95 %Confidence Limit of Error	Site Values	Pass/Fail
Steering axles	±20 percent	-3.0 ±13.2%	Pass
Tandem axles	±15 percent	2.4 ±6.9%	Pass
Gross vehicle weights	±10 percent	1.5 ±5.8%	Pass
Speed	±1 mph [2 km/hr]	0.1 ±0.8 mph	Pass
Axle spacing	± 0.5 ft [150 mm]	0.0 ±0.1 ft	Pass

Table 6-8 has the results at the end of the last validation by temperature. The prior validation was conducted at a higher temperature range than the current one. Through this validation the equipment has been observed at temperature from 59 to 130 degrees Fahrenheit.

Table 6-8 Post-Validation Results by Temperature Bin – 170600 – 08-Sep-2005

Element	95% Limit	Low Temperature 80 - 99 °F	Med. Temperature 100 - 115°F	High Temperature 116 - 130°F
Steering axles	±20 %	-2.0 ± 14.4%	-2.0 ± 21.7%	-3.7 ± 11.9%
Tandem axles	±15 %	2.0 ± 7.5%	2.0 ± 6.0%	2.8 ± 7.4%
GVW	±10 %	1.3 ± 5.4%	1.0 ± 7.0%	1.7 ± 6.5%
Speed	±1 mph	0.0 ± 0.0 mph	0.1 ± 0.8 mph	0.1 ± 1.1 mph
Axle spacing	± 0.5 ft	0.0 ± 0.1 ft	0.0 ± 0.1 ft	0.0 ± 0.1 ft

Table 6-9 has the results of the prior post validation by speed groups. At that time the site tended to overestimate loading values at the high end of the speed range.

Table 6-9 Post-Validation Results by Speed Bin – 170600 – 08-Sep-2005

Element	95% Limit	Low Speed 47 - 51 mph	Medium Speed 52 - 56 mph	High Speed 57 - 61 mph
Steering axles	±20 %	-1.7 ± 11.0%	-7.9 ± 8.4%	0.8 ± 15.1%
Tandem axles	±15 %	2.1 ± 5.7%	0.4 ± 6.2%	4.8 ± 6.1%
GVW	±10 %	1.4 ± 3.8%	-1.1 ± 5.0%	4.0 ± 3.6%
Speed	±1 mph	0.0 ± 0.0 mph	0.0 ± 0.0 mph	0.0 ± 0.0 mph
Axle spacing	± 0.5 ft	0.1 ± 0.1 ft	0.0 ± 0.1 ft	0.0 ± 0.1 ft

7 Data Availability and Quality

As of September 21, 2006, this site does not have at least 5 years of research quality data. Research quality data is defined to be at least 210 days in a year of data of known calibration meeting LTPP's precision requirements.

Data that has validation information available has been reviewed in light of the patterns present in the two weeks immediately following a validation/calibration activity. A determination of research quality data is based on the consistency with the validation pattern. Data that follows consistent and rational patterns in the absence of calibration information may be considered nominally of research quality pending validation information with which to compare it. Data that is inconsistent with expected patterns and has no supporting validation information is not considered research quality.

The amount and coverage for the site is shown in

Table 7-1. The value for months is a measure of the seasonal variation in the data. The indicator of coverage indicates whether day of week variation has been accounted for on an annual basis. As can be seen from the table, only 1997 and 1998 have a sufficient quantity to be considered complete years of data. In the absence of previously gathered validation information, it can be seen that at least 5 additional years of research quality data are needed to meet the goal of a minimum of 5 years of research weight data.

Table 7-1 Amount of Traffic Data Available 170600 –20-Sep-2006

Year	Classification Days	Months	Coverage	Weight Days	Months	Coverage
1991	0	0	None	17	2	Full Week
1992	0	0	None	1	1	Weekend day(s)
1993	44	2	Full Week	48	3	Full Week
1994	96	7	Full Week	0	0	None
1995	60	5	Full Week	0	0	None
1996	23	6	Full Week	40	5	Full Week
1997	224	11	Full Week	282	11	Full Week
1998	218	10	Full Week	225	11	Full Week
1999	52	3	Full Week	51	3	Full Week
2002	5	1	Weekday(s) and Weekend day(s)	2	1	Weekday(s) and Weekend day(s)
2005	45	2	Full Week	47	2	Full Week

GVW graphs and characteristics associated with them are used as data screening tools. As a result, classes constituting more that ten percent of the truck population are considered major sub-groups whose evaluation characteristics should be identified for use in screening. The typical values to be used for reviewing incoming data after a validation are determined starting with data from the day after the completion of a validation.

Only Class 9s constitute more than 10 percent of the truck population. Based on the data collected on September 22, 2006, the following are the expected values for these populations. The precise values to be used in data review will need to be determined by the RSC on receipt of the first 14 days of data after the successful validation. For sites that do not meet LTPP precision requirements, this period may still be used as a starting point from which to track scale changes.

Table 7-2 is generated with a column for every vehicle class 4 or higher that represents 10 percent or more of the truck (class 4-20) population. In creating Table 7-2 the following definitions are used:

- Class 9 overweights are defined as the percentage of vehicles greater than 88,000 pounds
- Class 9 underweights are defined as the percentage of vehicles less than 20,000 pounds.
- Class 9 unloaded peak is the bin less than 44,000 pounds with the greatest percentage of trucks.
- Class 9 loaded peak is the bin 60,000 pounds or larger with the greatest percentage of trucks.

There may be more than one bin identified for the unloaded or loaded peak due to the small sample size collected after validation. Where only one peak exists, the Peak rather than a loaded or unloaded peak is identified. This may happen with single unit trucks. It is not expected to occur with combination vehicles.

Table 7-2 GVW Characteristics of Major Sub-groups of Trucks - 170600 –21-Sep-2006

Characteristic	Class 9
Percentage Overweights	0.1%
Percentage Underweights	0.0%
Unloaded Peak	38,000 lbs
Loaded Peak	80,000 to 84,000 lbs

The expected percentage of unclassified vehicles is 2.2%. This is based on the percentage of unclassified vehicles in the post-validation data download.

The graphical screening comparison figures are found in Figure 7-1 through Figure 7-3. These are based on data collected immediately after the validation and may not be wholly representative of the population at the site. They should however provide a sense of the statistics expected when SPS comparison data is computed for the post-validation Sheet 16.

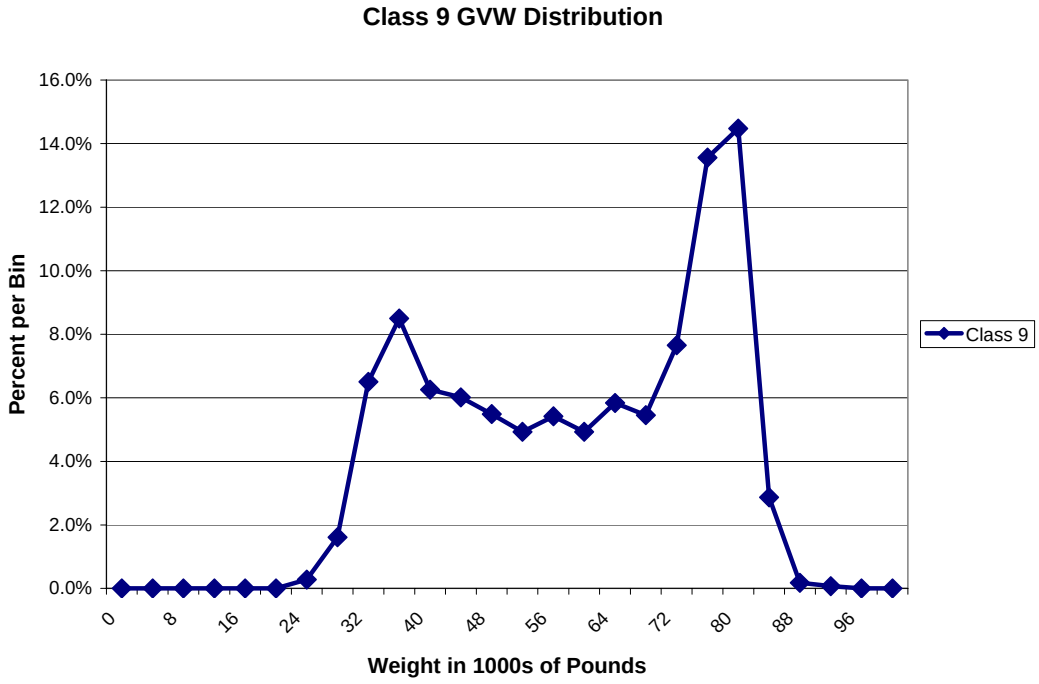

Figure 7-1 Expected GVW Distribution Class 9 – 170600 –21-Sep-2006

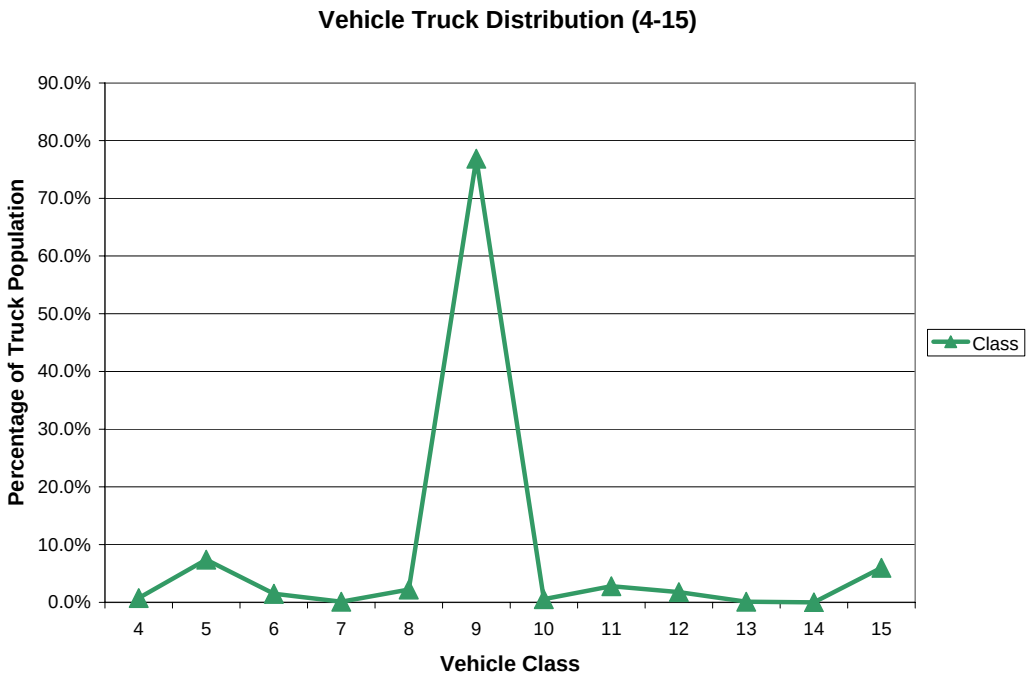

Figure 7-2 Expected Vehicle Distribution - 170600 –21-Sep-2006

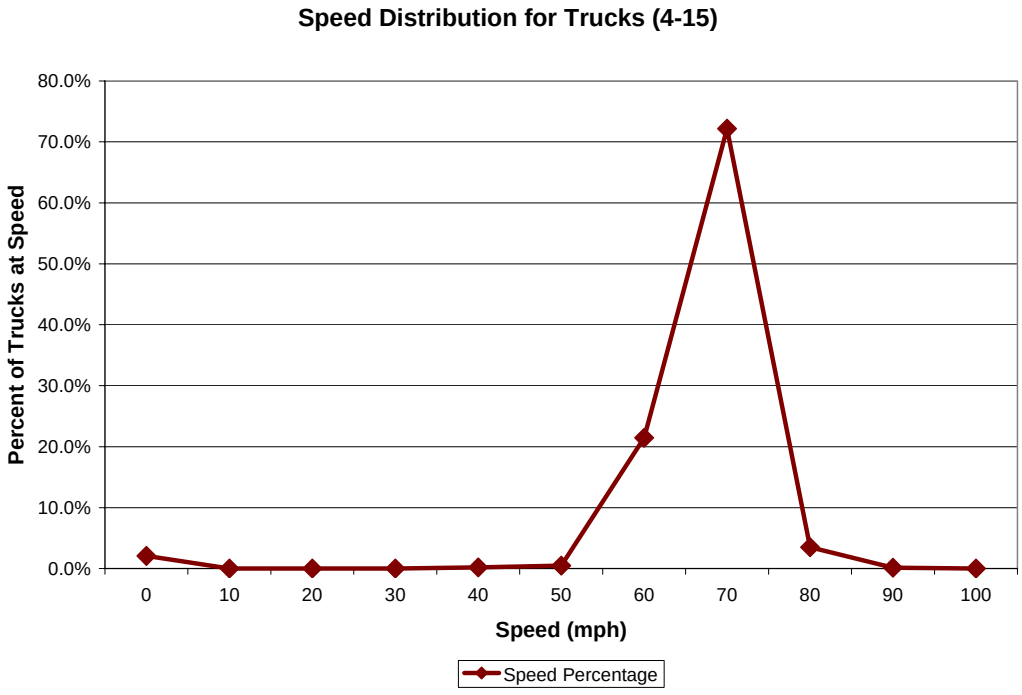

Figure 7-3 Expected Speed Distribution - 170600 –21-Sep-2006

8 Data Sheets

The following is a listing of data sheets incorporated in Appendix A.

Sheet 19 – Truck 1 – 3S2 loaded air suspension tractor and trailer (4 pages)
Sheet 19 – Truck 2 – 3S2 loaded air suspension tractor and tapered leaf suspension trailer (4 pages)

Sheet 20 – Speed and Classification Verification Pre-Validation (3 pages)
Sheet 20 – Classification Verification – Post-Validation (3 pages)

Sheet 21 – Pre-Validation (3 pages)
Sheet 21 – Calibration Iteration 1 – (1 page)
Sheet 21 – Post-Validation (2 pages)

Calibration Iteration 1 Worksheets – (1 page)

Test Truck Photographs (7 pages)

Illinois Monthly Data Summary (14 pages)

Illinois Scheduled Maintenance 1 (2 pages)

Illinois Scheduled Maintenance 2 (2 pages)

9 Updated Handout Guide and Sheet 17

A copy of the handout has been included following page 35. It includes a current Sheet 17 with all applicable maps and photographs. There are no significant changes in the information provided.

10 Updated Sheet 18

A current Sheet 18 indicating the contacts, conditions for assessments and evaluations has been attached following the updated handout guide.

11 Traffic Sheet 16(s)

Sheet 16s for the pre-validation and post-validation conditions are attached following the current Sheet 18 information at the very end of the report.

APPENDIX A

Sheet 19	* STATE CODE	17
LTPP Traffic Data	* SPS PROJECT ID	0600
*CALIBRATION TEST TRUCK # 1	* DATE	9/19/06

Rev. 08/31/01

PART I.

1.* FHWA Class 9 2.* Number of Axles 5

AXLES - units - lbs / 100s lbs / kg

	3. Empty Truck Axle Weight	4.* Pre-Test Average Loaded Axle Weight	5.* Post-Test Average Loaded Axle Weight	6.* Measured D)irectly or C)alculated?
A		9580	9220	D / C
B		15790	15650	D / C
C		15790	15650	D / C
D		17310	17300	D / C
E		17310	17300	D / C
F				D / C

GVW (same units as axles)

7. a) Empty GVW _____

*b) Average Pre-Test Loaded weight 75780

*c) Post Test Loaded Weight 75120

*d) Difference Post Test – Pre-test 660

GEOMETRY

8 a) * Tractor Cab Style - Cab Over Engine / Conventional b) * Sleeper Cab? Y / N

9. a) * Make: KEN WORTH b) * Model: T600

10.* Trailer Load Distribution Description:

CONCRETE BARRIERS EVENLY SPREAD OVER TRAILER

11. a) Tractor Tare Weight (units): _____

b). Trailer Tare Weight (units): _____

Sheet 19	* STATE_CODE	17
LTPP Traffic Data	* SPS PROJECT ID	0600
*CALIBRATION TEST TRUCK # 1	* DATE	9/19/06

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12.* Axle Spacing – units m / feet and inches / feet and tenths

A to B ~~13.5~~ 12.0 B to C ~~4.4~~ 4.4 C to D 32.0

D to E ~~4.4~~ 4.2 E to F _____

Wheelbased (measured A to last) _____ Computed _____

13. *Kingpin Offset From Axle B (units) +2.3 (_____)
(+ is to the rear)

SUSPENSION

Axle	14. Tire Size	15.* Suspension Description (leaf, air, no. of leaves, taper or flat leaf, etc.)
A	~~11R22.5~~ 75R22.5	2 Full leaf
B	~~75R24.5~~ 75R22.5	6 taper leaf air
C	~~75R24.5~~ 80R22.5	" air
D	~~295/75R~~ 75R22.5	2 taper leaf air
E	~~295/75R~~ 80R22.5	2 taper leaf air
F	_____	_____

16. Cold Tire Pressures (psi) – from right to left

Steering Axle	Axle B	Axle C	Axle D	Axle E
_____	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
_____	_____	_____	_____	_____

Sheet 19	* STATE CODE	17
LTPP Traffic Data	* SPS PROJECT ID	0600
*CALIBRATION TEST TRUCK # 1	* DATE	9/19/06

Rev. 08/31/01

PART II

Table 1. Axle and GVW computations - pre-test

Axle A		Axle B		Axle C		Axle D		Axle E		GVW	
I		II -I		III -II		IV -III		V -IV		V	
V -VI		VI- VII		VII- VIII		VIII- IX		IX`		X	
										XI	
Avg.											

Table 2. Raw Axle and GVW measurements

Axles	Meas.	Pre-test Weight			Post-test Weight
A	I				
A + B	II				
A + B + C	III				
A + B + C + D	IV				
A + B + C + D + E (1)	V				
B + C + D + E	VI				
C + D + E	VII				
D + E	VIII				
E	IX				
A + B + C + D + E (2)	X				
A + B + C + D + E (3)	XI				

Table 3. Axle and GVW computations - post -test

Axle A		Axle B		Axle C		Axle D		Axle E		GVW	
I		II -I		III -II		IV -III		V -IV		V	
V -VI		VI- VII		VII- VIII		VIII- IX		IX`		X	
										XI	
Avg.											

Sheet 19	* STATE_CODE	17
LTPP Traffic Data	* SPS PROJECT ID	2600
*CALIBRATION TEST TRUCK # 1	* DATE	9/19/06

Rev. 08/31/01

Table 4 . Axle and GVW computations -

Axle A		Axle B		Axle C		Axle D		Axle E		GVW	
I		II -I		III -II		IV -III		V -IV		V	
V -VI		VI-VII		VII-VIII		VIII-IX		IX`		X	
										XI	
Avg.											

Table 5. Raw data – Axle scales – pre-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	9680	15790	15790	17330	17330		75920
2	9680	15790	15790	17330	17330		75920
3	9680	15790	15790	17320	17320		75900
Average	9680	15790	15790	17330	17330		75910
post	9580	15790	15790	17310	17310		75780

Table 6. Raw data – Axle scales – day 2 pre

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	9600	15810	15810	17310	17310		75840
2	9640	15800	15800	17310	17310		75860
3	9580	15810	15810	17310	17310		75820
Average	9607	15810	15810	17310	17310		75840
post	9220	15650	15650	17300	17300		75120

Table 7. Raw data – Axle scales – post-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1							
2							
3							
Average							

Measured By BJW Verified By _____

Sheet 19	* STATE_CODE	17
LTPP Traffic Data	* SPS PROJECT ID	0600
*CALIBRATION TEST TRUCK # 2	* DATE	9/19/06

Rev. 08/31/01

PART I.

1.* FHWA Class 9 2.* Number of Axles 5

AXLES - units - lbs / 100s lbs / kg

	3. Empty Truck Axle Weight	4.* Pre-Test Average Loaded Axle Weight	5.* Post-Test Average Loaded Axle Weight	6.* Measured D)irectly or C)alculated?
A		10140	10320	D / C
B		12520	12580	D / C
C		12520	12560	D / C
D		12470	12460	D / C
E		12470	12460	D / C
F				D / C

GVW (same units as axles)

7. a) Empty GVW _____

*b) Average Pre-Test Loaded weight 60120
*c) Post Test Loaded Weight 60760
*d) Difference Post Test – Pre-test +140

GEOMETRY

8 a) * Tractor Cab Style - Cab Over Engine / Conventional b) * Sleeper Cab? Y / N

9. a) * Make: FREIGHTLINER b) * Model: CLASSIC FLD

10.* Trailer Load Distribution Description:

concrete barriers loaded evenly along trailer

11. a) Tractor Tare Weight (units): _____

b). Trailer Tare Weight (units): _____

Sheet 19	* STATE_CODE	17
LTPP Traffic Data	* SPS PROJECT ID	0600
*CALIBRATION TEST TRUCK # 2	* DATE	9/19/06

Rev. 08/31/01

12.* Axle Spacing – units m / feet and inches / feet and tenths

A to B 17.5 B to C 4.2 C to D 27.3

D to E 4.1 E to F _____

Wheelbased (measured A to last) _____ Computed _____

13. *Kingpin Offset From Axle B (units) +1.8 (_____)

(+ is to the rear)

SUSPENSION

Axle	14. Tire Size	15.* Suspension Description (leaf, air, no. of leaves, taper or flat leaf, etc.)
A	75R24.5	2 tapered leaf
B	75R24.5	air
C	80R24.5	air
D	11R24.5	~~air~~ 3 tapered leaf
E	11R24.5	~~air~~ 3 tapered leaf
F		

16. Cold Tire Pressures (psi) – from right to left

Steering Axle	Axle B	Axle C	Axle D	Axle E

Sheet 19	* STATE_CODE	17
LTPP Traffic Data	* SPS PROJECT ID	0600
*CALIBRATION TEST TRUCK # 2	* DATE	9/19/06

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PART II

Table 1. Axle and GVW computations - pre-test

Axle A		Axle B		Axle C		Axle D		Axle E		GVW	
I		II -I		III -II		IV -III		V -IV		V	
V -VI		VI- VII		VII- VIII		VIII- IX		IX`		X	
										XI	
Avg.											

Table 2. Raw Axle and GVW measurements

Axles	Meas.	Pre-test Weight			Post-test Weight
A	I				
A + B	II				
A + B + C	III				
A + B + C + D	IV				
A + B + C + D + E (1)	V				
B + C + D + E	VI				
C + D + E	VII				
D + E	VIII				
E	IX				
A + B + C + D + E (2)	X				
A + B + C + D + E (3)	XI				

Table 3. Axle and GVW computations - post -test

Axle A		Axle B		Axle C		Axle D		Axle E		GVW	
I		II -I		III -II		IV -III		V -IV		V	
V -VI		VI- VII		VII- VIII		VIII- IX		IX`		X	
										XI	
Avg.											

Sheet 19	* STATE CODE	17
LTPP Traffic Data	* SPS PROJECT ID	0608
*CALIBRATION TEST TRUCK # 2	* DATE	9/19/06

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Table 4 . Axle and GVW computations -

Axle A		Axle B		Axle C		Axle D		Axle E		GVW	
I		II -I		III -II		IV -III		V -IV		V	
V -VI		VI- VII		VII- VIII		VIII- IX		IX`		X	
										XI	
Avg.											

Table 5. Raw data – Axle scales – pre-test - day 1

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	10460	12610	12610	12500	12500		60680
2	10440	12630	12630	12490	12490		60680
3	10420	12630	12630	12490	12490		60660
Average	10440	12620	12620	12490	12490		60670
post	10140	12520	12520	12470	12470		60120

Table 6. Raw data – Axle scales – day 2

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	10660	12640	12640	12470	12470		60880
2	10660	12640	12640	12470	12470		60880
3	10660	12650	12650	12460	12460		60880
Average	10660	12640	12640	12470	12470		60880
post	10320	12560	12560	12460	12460		60360

Table 7. Raw data – Axle scales – post-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1							
2							
3							
Average							

Measured By DJW Verified By _____

Sheet 20	* STATE_CODE 17
LTPP Traffic Data	*SPS PROJECT_ID 0600
Speed and Classification Checks * 1 of* 3	* DATE 09/19/2006

Rev. 08/31/2001....

WIM speed	WIM class	WIM Record	Obs. Speed	Obs Class	WIM speed	WIM class	WIM Record	Obs. Speed	Obs Class
61	9	11971	61	9	60	9	12113	60	9
61	9	12008	61	9	57	6	12120	57	6
57	9	12010	57	9	59	9	12129	59	9
63	9	12016	63	9	57	9	12137	57	9
67	8	12018	66	8	59	9	12138	59	9
63	8	12020	63	8	64	9	12140	64	9
59	9	12022	59	9	62	9	12141	62	9
65	9	12025	65	9	62	9	12143	62	9
57	9	12033	57	9	62	9	12144	62	9
64	9	12052	64	9	61	9	12145	61	9
60	9	12055	60	9	61	9	12147	60	9
62	9	12057	62	9	63	9	12151	63	9
59	9	12058	59	9	65	13	12154	65	13
62	9	12066	62	9	70	9	12164	70	9
65	9	12075	65	9	60	10	12166	60	10
63	8	12076	63	8	57	9	12170	57	9
65	9	12081	64	9	64	6	12174	65	6
57	9	12083	57	9	59	8	12178	59	8
62	9	12084	62	9	61	7	12185	61	7
60	3	12093	61	5	56	9	12187	57	9
65	9	12097	65	9	56	9	12189	56	9
58	9	12098	58	9	55	8	12192	55	8
62	9	12106	62	9	59	4	12199	59	4
58	8	12108	58	8	63	9	12201	63	9
57	9	12111	57	9	65	3	12202	65	5

utility truck (pick-up)

utility truck

Recorded by DJW Direction N Lane 1 Time from _____ to 1:14

Sheet 20	* STATE_CODE 17
LTPP Traffic Data	*SPS PROJECT_ID 0600
Speed and Classification Checks * 2 of* 3	* DATE 09/19/2006

Rev. 08/31/2001....

WIM speed	WIM class	WIM Record	Obs. Speed	Obs Class	WIM speed	WIM class	WIM Record	Obs. Speed	Obs Class
62	9	12457	62	9	60	9	12553	61	9
68	9	12459	68	9	60	9	12555	60	9
60	9	12466	60	9	57	5	12557	57	5
62	13	12468	62	13	55	5	12558	55	5
60	9	12469	60	~~10~~ 9	66	10	12559	66	10
63	9	12470	63	9	54	9	12560	54	9
62	9	12471	63	9	60	9	12573	60	9
60	9	12482	60	9	60	9	12580	60	9
63	9	12483	63	9	60	9	12582	60	9
64	12	12487	64	12	55	9	12583	55	9
59	9	12488	59	9	59	9	12584	59	9
59	9	12491	59	9	57	9	12585	57	9
59	9	12495	59	9	62	9	12601	62	9
59	9	12496	59	9	60	9	12604	60	9
60	9	12498	60	9	58	~~9~~ 4	12605	58	~~9~~ 4
60	9	~~12~~ 500	60	9	64	9	12618	64	9
63	~~8~~	12501	63	8	56	5	12619	~~64~~ 56	5
55	9	12502	55	9	64	9	12622	64	9
57	9	12507	57	9	70	5	12623	70	5
62	8	12508	63	8	65	9	12624	65	9
64	13	12510	64	13	66	3	12625	66	3
~~64~~ 57	4	12512	~~64~~ 57	5	67	9	12633	60	9
64	9	12514	64	9	60	9	12634	60	9
64	9	12538	64	9	62	9	12635	61	9
60	9	12542	61	9	58	~~9~~ 4	12636	58	~~9~~ 5

20.6
4.3

21.5' delivery truck

12.6

Recorded by NW Direction N Lane 1 Time from 1:34 to 2:03

Sheet 20	* STATE_CODE 17
LTPP Traffic Data	*SPS PROJECT_ID 0600
Speed and Classification Checks * 3 of* 3	* DATE 09/19/2006

Rev. 08/31/2001....

WIM speed	WIM class	WIM Record	Obs. Speed	Obs Class	WIM speed	WIM class	WIM Record	Obs. Speed	Obs Class
60	9	12650	60	9					
63	9	12661	63	9					
58	9	12662	58	9					
60	9	12665	60	9					
60	4	12673	60	5					

20.6

Recorded by DSW Direction N Lane 1 Time from 2:03 to 2:10

Sheet 20	* STATE_CODE	17
LTPP Traffic Data	*SPS PROJECT_ID	0600
Speed and Classification Checks * 1 of* 3	* DATE	09/21/2006

Rev. 08/31/2001....

WIM speed	WIM class	WIM Record	Obs. Speed	Obs Class	WIM speed	WIM class	WIM Record	Obs. Speed	Obs Class
	9	26195		9		9	26275		9
	7	26199		9		8	26276		8
	9	26205		9		5	26277		5
	5	26206		5		5	26279		5
	9	26207		9		5	26280		5
	12	26212		12		5	26281		5
	9	26213		9		8	26283		8
	9	26217		9		9	26284		9
	9	26220		9		11	26296		11
	9	26223		9		9	26299		9
	9	26224		9		9	26305		9
	9	26232		9		6	26306		6
25	4	26233		5		9	26307		9
	9	26236		9		9	26309		9
	5	26255		5		9	26310		9
	9	26256		9		9	26313		9
	5	26257		5		9	26318		9
	9	26258		9		9	26319		9
	9	26264		9		9	26321		9
	8	26265		8		9	26328		9
	9	26267		9		9	26329		9
	9	26271		9		9	26339		9
	9	26272		9		9	26350		9
	9	26273		9		9	26352		9
	9	26274		9		9	26354		9

25.3 livery truck

Recorded by DCS Direction N Lane 1 Time from 9:34 to 9:55

Sheet 20	* STATE_CODE 17
LTPP Traffic Data	*SPS PROJECT_ID 0600
Speed and Classification Checks * 2 of* 3	* DATE 09/21/2006

Rev. 08/31/2001....

WIM speed	WIM class	WIM Record	Obs. Speed	Obs Class	WIM speed	WIM class	WIM Record	Obs. Speed	Obs Class
	9	26355		9		9	26420		9
	9	26357		9		9	26424		9
	9	26363		9		9	26425		9
21.1 delivery truck	4	26365		5		9	26426		9
	9	26366		9		9	26428		9
	9	26367		9		8	26429		8
	9	26368		9		9	26431		9
	9	26369		9		9	26433		9
	9	26371		9		9	26437		9
	9	26372		9		8	26440		8
	9	26373		9		9	26443		9
	9	26380		9		9	26447		9
	8	26381		8		10	26448		10
	9	26382		9		8	26450		8
	9	26384		9		9	26454		9
	9	26388		9		9	26456		9
	9	26390		9		9	26463		9
	9	26397		9		9	26464		9
	9	26402		9		9	26481		9
	9	26406		9		9	26482		9
	9	26407		9		5	26489		5
	9	26409		9		9	26494		9
	9	26410		9		9	26500		9
	9	26415		9		9	26501		9
	9	26419		9		9	26503		9

Recorded by OCS Direction N Lane 1 Time from 9:55 to 10:18

Sheet 20	* STATE_CODE 17
LTPP Traffic Data	*SPS PROJECT_ID 0600
Speed and Classification Checks * 3 of* 3	* DATE 09/21/2004

Rev. 08/31/2001....

WIM speed	WIM class	WIM Record	Obs. Speed	Obs Class	WIM speed	WIM class	WIM Record	Obs. Speed	Obs Class
	4	26507		4					
	8	26509		8					
	9	26511		9					
	8	26512		8					
	9	26513		9					

Recorded by OCJ Direction N Lane 1 Time from 10:19 to 10:19

Sheet 21	* STATE_CODE	17
LTPP Traffic Data	*SPS PROJECT_ID	0600
WIM System Test Truck Records 1 of 3	* DATE	09/20/2006

Rev. 08/31/2001

Pvmt temp	Radar Speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A right / left weight.	Axle B right / left weight.	Axle C right / left weight.	Axle D right / left weight.	Axle E right / left weight.	Axle F right / left weight.	GVW	A-B space	B-C space	C-D space	D-E space	E-F space
59	41	1		08:58:11	18377	41	5.3 / 4.5	8.5 / 7.6	9.3 / 7.1	10.3 / 8.5	9.3 / 8.0		78.0	12.0	4.4	32.1	4.1	
61	37	2		09:05:28	18439	37	5.1 / 5.0	7.2 / 6.1	6.9 / 6.0	7.0 / 6.1	6.8 / 5.4		61.6	17.5	4.2	27.7	4.0	
63	50	1		09:20:53	18528	50	4.7 / 4.2	8.5 / 7.2	7.9 / 6.1	9.0 / 7.6	9.2 / 8.4		74.8	12.0	4.4	32.3	4.1	
63	48	2		09:30:36	18596	48	5.3 / 4.9	7.1 / 6.0	7.2 / 5.2	8.2 / 5.6	6.5 / 5.7		61.7	17.5	4.2	27.6	4.0	
66	50	1		09:42:43	18664	49	5.2 / 4.4	8.5 / 7.2	8.2 / 7.6	9.5 / 7.7	6.6 / 8.3		73.2	12.0	4.4	32.3	4.1	
66	58	2		09:52:00	18719	58	4.9 / 4.7	5.7 / 6.0	6.5 / 5.5	6.5 / 6.3	6.7 / 5.7		58.4	17.5	4.2	27.6	4.0	
70	52	1		10:04:57	18801	52	5.1 / 4.6	8.0 / 7.0	8.6 / 6.9	9.1 / 7.7	8.6 / 8.6		73.5	12.0	4.4	32.3	4.1	
70.5	38	2		10:13:38	18855	37	5.4 / 4.7	7.0 / 5.8	7.0 / 5.6	7.4 / 5.8	6.3 / 5.1		60.1	17.4	4.2	27.5	4.1	
71.5	45	1		10:26:39	18953	45	5.1 / 4.6	8.5 / 7.3	8.2 / 7.4	8.7 / 7.3	9.5 / 8.3		74.8	12.1	4.4	32.4	4.1	
76.5	49	2		10:35:49	19006	49	5.4 / 4.8	7.0 / 6.1	7.1 / 5.3	8.0 / 5.9	6.6 / 6.0		62.3	17.5	4.2	27.5	4.1	
75.0	55	1		10:47:44	19080	55	4.4 / 4.5	7.6 / 7.1	8.5 / 7.1	9.1 / 7.7	8.3 / 7.9		72.1	12.0	4.4	32.2	4.1	
76.0	59	2		10:56:48	19146	59	5.6 / 4.6	6.7 / 5.8	7.3 / 5.4	7.1 / 6.4	6.7 / 5.3		60.8	17.5	4.2	27.6	4.1	
76.0	44	1		11:08:11	19212	44	5.2 / 4.1	8.5 / 7.5	8.1 / 7.4	9.9 / 8.8	9.2 / 8.2		76.9	12.0	4.4	32.4	4.1	
>8	39	2		11:19:01	19266	39	5.4 / 4.7	7.1 / 6.1	7.1 / 5.6	6.5 / 6.0	7.3 / 5.0		60.7	17.5	4.2	27.7	4.0	
77.5	52	1		11:29:28	19333	52	4.9 / 4.2	8.3 / 7.0	8.5 / 6.7	9.3 / 7.9	8.6 / 8.3		73.7	12.1	4.4	32.3	4.1	
81.5	49	2		11:39:27	19400	49	5.3 / 4.8	6.6 / 5.9	7.1 / 5.3	7.8 / 5.7	6.5 / 5.2		60.2	17.5	4.2	27.6	4.0	

Recorded by DCJ

Checked by _____

Sheet 21	* STATE_CODE	17
LTPP Traffic Data	*SPS PROJECT_ID	0600
WIM System Test Truck Records 2 of 3	* DATE	09/20/2006

Rev. 08/31/2001

Pvmt temp	Radar Speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A right / left weight.	Axle B right / left weight.	Axle C right / left weight.	Axle D right / left weight.	Axle E right / left weight.	Axle F right / left weight.	GVW	A-B space	B-C space	C-D space	D-E space	E-F space
82	60	1		11:50:40	19478	60	10.1/4.3	9.2/6.9	9.0/7.0	9.6/7.2	9.5/8.2		76.9	12.1	4.4	32.4	4.1	
81	59	2		12:00:51	19531	59	4.8/4.5	7.0/6.0	7.1/5.4	7.4/6.2	6.9/5.8		61.4	17.5	4.3	27.5	4.1	
77.5	42	1		12:12:06	19613	42	4.9/4.3	8.5/7.9	7.8/7.5	10.5/9.0	9.8/8.4		77.4	12.0	4.4	32.2	4.1	
80.5	39	2		12:22:09	19677	39	5.3/4.9	6.9/6.1	7.0/5.4	7.1/5.4	7.1/5.0		61.0	17.5	4.2	27.7	4.0	
83.5	51	1		13:53:16	20317	51	4.8/4.5	8.7/7.0	8.5/6.9	9.1/8.1	8.7/8.4		74.5	12.1	4.3	32.2	4.1	
84	49	2		14:00:00	20361	49	5.3/4.9	7.2/6.0	7.0/5.6	6.7/6.0	6.7/5.9		61.3	17.5	4.2	27.6	4.1	
86.5	59	1		14:14:17	20463	59	4.0/4.3	9.5/7.0	9.3/6.8	8.6/7.2	8.0/6.1		72.8	12.1	4.4	32.3	4.1	
86.5	60	2		14:21:48	20524	60	5.6/4.8	4.4/6.1	5.4/5.6	7.1/6.3	6.4/5.3		57.2	17.5	4.2	27.6	4.0	
84.5	43	1		14:35:05	20614	43	4.6/4.1	8.5/7.4	8.9/8.1	9.3/8.5	9.4/9.1		78.4	11.9	4.3	32.1	4.0	
82.5	41	2		14:43:39	20661	41	5.0/4.6	7.2/6.0	6.8/5.8	7.2/6.1	6.5/5.1		60.3	17.5	4.2	27.4	4.1	
75.5	50	1		14:55:59	20757	50	4.2/5.1	6.8/8.6	6.9/8.6	7.9/9.3	8.3/9.2		74.9	12.0	4.3	32.0	4.1	
73.0	49	2		15:05:07	20840	49	5.2/4.9	6.7/5.4	7.0/5.4	7.8/5.8	6.3/6.0		60.9	17.5	4.2	27.6	4.1	
71.5	61	1		15:16:51	20938	61	5.5/4.5	9.2/7.0	5.5/6.6	9.4/7.2	9.3/7.9		72.2	12.1	4.4	32.3	4.1	
66.0	59	2		15:27:12	21020	59	5.7/4.7	6.9/6.0	5.7/5.4	8.1/5.7	6.8/5.3		60.4	17.6	4.3	27.8	4.1	
66.5	44	1		15:38:20	21111	44	5.1/4.4	8.6/7.6	8.0/7.5	9.1/9.0	10.1/9.7		78.0	12.0	4.4	32.2	4.1	
67.5	39	2		15:49:05	21197	39	5.4/4.7	7.1/6.1	7.0/5.6	6.7/5.8	6.7/5.6		60.6	17.4	4.2	27.6	4.0	

Recorded by DCJ Checked by

Sheet 21	* STATE_CODE	17
LTPP Traffic Data	*SPS PROJECT_ID	0600
WIM System Test Truck Records 3 of 3	* DATE	09/20/2006

Rev. 08/31/2001

Pvmt temp	Radar Speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A right / left weight.	Axle B right / left weight.	Axle C right / left weight.	Axle D right / left weight.	Axle E right / left weight.	Axle F right / left weight.	GVW	A-B space	B-C space	C-D space	D-E space	E-F space
70.	53	1		15:59:40	21278	53	4.5/4.3	8.2/6.9	7.7/7.4	9.3/7.9	8.8/8.3		73.3	12.1	4.4	32.4	4.1	
67.5	49	2		16:10:31	21365	49	5.0/5.1	6.6/5.9	7.1/5.6	7.7/5.6	6.4/5.5		60.6	17.5	4.2	27.5	4.0	
67.5	57	1		16:20:30	21442	57	4.4/4.1	8.3/6.9	9.9/6.6	8.3/7.5	8.1/8.0		71.6	12.1	4.4	32.4	4.1	
66.5	59	2		16:31:30	21520	59	5.7/4.6	6.9/5.8	7.4/5.3	7.5/5.4	7.1/6.6		60.3	17.5	4.2	27.6	4.1	
63.5	46	1		16:42:25	21617	46	4.7/4.0	8.3/7.5	8.1/7.4	9.0/7.8	4.9/8.4		74.1	12.0	4.4	32.3	4.1	
68.5	39	2		16:53:55	21716	39	5.3/4.8	6.7/6.1	6.9/5.4	7.3/5.9	6.9/5.3		60.9	17.5	4.2	27.7	4.1	
69.5	57	1		17:03:23	21786	57	5.3/3.8	8.9/6.9	8.5/7.3	10.4/7.5	9.7/8.2		76.5	12.1	4.4	32.4	4.1	
65.5	49	2		17:15:45	21890	49	5.1/4.7	6.8/6.0	7.1/5.5	8.2/5.7	6.3/6.0		61.6	17.5	4.2	27.7	4.1	

Recorded by DCJ

Checked by _____

Sheet 21	* STATE_CODE	17
LTPP Traffic Data	*SPS PROJECT_ID	0600
WIM System Test Truck Records 1 of 1	* DATE	09/21/2006

Rev. 08/31/2001

cal 1

Pvmt temp	Radar Speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A right / left weight.	Axle B right / left weight.	Axle C right / left weight.	Axle D right / left weight.	Axle E right / left weight.	Axle F right / left weight.	GVW	A-B space	B-C space	C-D space	D-E space	E-F space
49.5	41	1	1	7:42:09	25454	41	4.8/4.1	8.5/7.5	8.1/7.8	9.2/8.2	9.6/8.9		76.7	11.9	4.4	32.2	4.1	
48.5	39	2	1	7:50:10	25510	39	5.5/5.1	7.2/6.1	6.9/5.7	6.8/6.3	6.5/5.9		59.9	17.5	4.2	27.8	4.1	
48.5	52	1	2	8:03:11	25602	52	4.6/4.2	8.3/7.1	8.1/7.3	9.0/8.7	8.6/8.3		73.2	12.1	4.3	32.3	4.1	
51.5	49	2	2	8:12:18	25674	49	5.4/5.0	6.6/6.1	7.1/5.3	9.3/5.6	6.2/5.9		61.5	17.6	4.2	27.5	4.0	
51.5	60	1	3	8:23:56	25760	60	6.1/4.6	9.3/7.0	8.7/6.9	10.4/7.2	10.0/8.0		78.1	12.1	4.4	32.4	4.1	
54.0	59	2	3	8:33:17	25853	59	5.8/5.2	7.0/6.3	5.8/5.4	7.6/6.6	6.7/5.5		61.9	17.6	4.2	27.7	4.1	
52.5	44	1	4	8:44:32	25935	44	5.0/4.7	8.5/7.4	8.2/7.4	9.6/8.1	9.8/9.1		77.8	12.0	4.4	32.3	4.1	
56.5	40	2	4	8:54:28	26007	40	5.4/4.7	6.5/6.1	6.9/6.1	6.8/6.5	6.5/5.3		60.8	17.5	4.2	27.7	4.1	
53.5	53	1	5	9:04:42	26084	53	4.8/4.4	8.3/6.7	8.1/7.4	9.3/7.3	9.1/7.8		73.3	12.0	4.4	32.3	4.1	
? 54	59	2	5	9:38:07	26321	59	4.8/5.1	6.4/6.2	6.1/5.7	8.2/5.9	6.7/5.2		60.3	17.6	4.2	27.7	4.1	
		1																
		2																

Recorded by DCJ

Checked by _____

Sheet 21	* STATE_CODE	17
LTPP Traffic Data	*SPS PROJECT_ID	0600
WIM System Test Truck Records 1 of 2	* DATE	09/21/2006

Rev. 08/31/2001

post_val

Pvmt temp	Radar Speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A right / left weight.	Axle B right / left weight.	Axle C right / left weight.	Axle D right / left weight.	Axle E right / left weight.	Axle F right / left weight.	GVW	A-B space	B-C space	C-D space	D-E space	E-F space
57.5	60	1	6	9:35:44	26236	60	5.5/4.2	9.1/7.1	8.5/7.0	10.3/7.4	9.0/8.2	X	76.3	12.0	4.4	32.2	4.1	
~~64.0~~	~~59~~	~~2~~	~~6~~	~~9:38:08~~	~~26321~~	~~59~~	~~4.8/5.1~~	~~6.4/6.2~~	~~6.1/5.7~~	~~8.2/5.9~~	~~6.7/5.2~~	X	~~60.3~~	~~17.6~~	~~4.2~~	~~27.7~~	~~4.1~~	
64.0	45	1	7	9:46:37	26384	45	4.9/3.9	7.6/7.3	8.5/8.0	9.9/8.3	9.1/8.4	X	76.0	12.0	4.4	32.4	4.1	
62.0	39	2	6	9:55:55	26464	39	5.3/5.0	6.9/6.4	7.1/6.0	7.0/6.3	6.8/4.2	X	60.8	17.5	4.2	27.6	4.1	
64.0	52	1	8	10:07:25	26524	52	4.9/4.0	8.2/6.9	8.1/7.2	9.7/7.4	8.9/7.9	X	73.2	12.1	4.4	32.3	4.1	
64.0	49	2	7	10:19:26	26613	49	5.3/5.0	6.4/5.7	7.3/5.3	8.4/5.8	6.0/5.9	X	60.9	17.6	4.2	27.6	4.1	
65.0	59	1	9	10:28:35	26684	59	5.7/4.0	9.3/7.0	8.9/6.9	7.9/7.4	8.0/8.3	X	73.6	12.1	4.4	32.5	4.1	
71.0	59	2	8	11:23:16	27043	59	4.8/5.0	7.0/6.5	5.6/5.4	5.1/5.8	6.9/5.6	X	57.8	17.6	4.3	27.7	4.1	
84.5	44	1	10	11:31:55	27103	44	4.0/4.3	8.4/7.8	8.6/7.9	8.2/7.3	10.0/9.5	X	76.0	12.0	4.3	32.2	4.1	
85.5	39	2	9	11:44:02	27187	39	5.4/5.0	7.0/6.1	7.0/5.9	6.6/5.8	7.1/5.3	X	61.2	17.5	4.2	27.7	4.0	
86.0	55	1	11	11:53:07	27257	55	4.4/4.2	8.1/6.8	7.8/6.5	9.2/7.7	8.5/7.9	X	71.1	12.0	4.3	32.2	4.1	
81.5	49	2	10	12:05:14	27345	49	5.2/5.0	6.8/6.3	7.2/5.4	8.1/5.7	6.5/6.1	X	62.3	17.5	4.2	27.5	4.1	
~~81.0~~	~~49~~	~~1~~	~~12~~	~~12:26:36~~	~~29592~~	~~49~~	~~5.2/4.4~~	~~8.5/6.5~~	~~7.8/6.9~~	~~6.6/7.6~~	~~6.6/8.0~~	X	~~68.4~~	~~11.9~~	~~4.4~~	~~31.9~~	~~9.0~~	
82.5	59	2	11	12:45:45	27665	59	4.9/4.9	6.9/6.3	5.5/5.6	6.5/5.7	6.9/5.6	X	59.0	17.6	4.3	27.7	4.1	
83.0	46	1	12	12:58:37	27767	46	4.8/4.2	8.4/7.6	8.0/7.8	9.3/8.2	8.2/8.9	X	75.5	12.0	4.4	32.3	4.0	
80.5	39	2	~~12~~ 12	13:06:49	27831	39	5.2/4.8	6.7/6.0	7.1/5.5	7.3/5.9	6.8/5.1	X	60.9	17.5	4.2	27.6	4.1	

Recorded by OCJ

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Sheet 21	* STATE_CODE 17
LTPP Traffic Data	*SPS PROJECT_ID 0600
WIM System Test Truck Records 2 of 2	* DATE 09/21/2006

Rev. 08/31/2001

Pvmt temp	Radar Speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A right / left weight.	Axle B right / left weight.	Axle C right / left weight.	Axle D right / left weight.	Axle E right / left weight.	Axle F right / left weight.	GVW	A-B space	B-C space	C-D space	D-E space	E-F space
84	54	1	13	13:19:34	27947	54	4.6/4.5	8.1/6.8	7.7/7.0	8.9/7.2	8.4/8.0	X	71.5	12.0	4.4	32.2	4.1	
84	49	2	~~13~~ 13	13:28:07	28016	49	5.2/5.3	6.5/6.2	7.4/5.3	7.9/5.9	6.1/6.2	X	61.9	17.5	4.2	27.6	4.0	
86	63	1	14	13:39:58	28113	63	5.2/4.5	9.4/7.0	8.8/7.0	9.1/7.6	9.3/8.4	X	76.2	12.1	4.4	32.3	4.1	
81	59	2	~~14~~ 14	13:49:05	28183	59	5.5/5.2	6.5/6.2	7.3/5.8	7.6/6.5	6.9/5.9	X	63.5	17.5	4.3	27.8	4.0	
82	43	1	15	14:00:08	28278	43	4.8/4.2	8.3/7.7	8.0/7.5	10.0/9.3	9.4/8.6	X	77.7	12.0	4.4	32.1	4.1	
82	39	2	~~15~~ 15	14:10:13	28373	39	5.2/4.7	6.9/6.1	6.9/5.8	7.0/6.0	6.8/4.8	X	60.3	17.5	4.2	27.8	4.0	
81.5	54	1	16	14:20:40	28451	54	4.7/4.2	8.1/6.8	8.2/7.0	9.1/7.7	8.6/8.5	X	72.9	12.1	4.4	32.3	4.1	
80	54	2	16	14:31:24	28538	54	5.1/4.3	7.0/5.9	7.1/5.5	7.4/6.0	7.3/5.3	X	60.8	17.5	4.2	27.6	4.1	
78	57	1	17	14:41:45	28626	57	4.0/4.2	9.1/7.2	9.0/7.4	8.2/7.4	8.0/8.3	X	72.8	12.1	4.4	32.4	4.1	
77	54	2	17	14:52:28	28718	54	4.8/4.7	7.2/6.2	6.7/5.3	6.7/6.0	7.4/5.4	X	60.6	17.6	4.2	27.8	4.1	
76.5	51	1	18	15:02:53	28797	51	4.8/3.8	8.5/6.9	7.6/7.1	9.1/7.9	9.0/8.1	X	73.4	12.0	4.4	32.3	4.1	
76.5	45	2	18	15:13:51	28884	45	5.5/5.0	6.7/6.2	6.3/5.6	7.1/6.1	5.8/6.5	X	60.8	17.6	4.2	27.7	4.1	
75.5	49	1	19	15:24:41	28961	49	4.6/4.0	8.4/7.1	8.2/7.3	9.7/7.3	9.6/8.3	X	74.4	12.1	4.4	32.3	4.1	
74.5	44	2	19	15:34:56	29047	44	5.4/4.9	6.6/6.0	7.3/5.5	7.5/6.3	6.2/5.6	X	61.3	17.6	4.2	27.7	4.1	
74.0	60	1	~~&~~ 20	15:44:37	29124	60	5.1/4.0	8.7/7.0	8.9/7.1	9.8/7.4	9.4/8.1	X	75.4	12.0	4.4	32.1	4.1	
73.0	59	2	20	15:56:21	29220	59	5.7/5.1	6.8/6.0	7.1/5.5	6.5/6.3	6.7/6.0	X	61.8	17.6	4.3	27.7	4.1	

Recorded by DJW Checked by

9/21/2006

Calibration Worksheet Site: 170600

Calibration Iteration 1 Date 9/21/06

Beginning factors:

Speed Point (mph)	Name	Value
Overall		
Front Axle		
1 – (50)	SP1	3710
2 – (55)	SP2	3740
3 – (60)	SP3	3745
4 – (65)	SP4	3711
5 – (70)	SP5	3641

Errors:

	Speed Point 1	Speed Point 2	Speed Point 3	Speed Point 4	Speed Point 5
F/A	0	-4%	-7%	-10%	-12%
Tandem	0	-4%	-5%	-7%	-9%
GVW	0	-5%	-3%	-4%	-5%

Adjustments:

	Raise	Lower	Percentage
Overall	☐	☐	
Front Axle	☐	☐	
Speed Point 1	☐	☐	
Speed Point 2	☑	☐	1%
Speed Point 3	☑	☐	2%
Speed Point 4	☑	☐	2.4%
Speed Point 5	☑	☐	2.2%

End factors:

Speed Point (mph)	Name	Value
Overall		
Front Axle		
1 - (50)	SP1	3710
2 - (55)	SP2	3780
3 - (60)	SP3	3815
4 - (65)	SP4	3800
5 - (70)	SP5	3720

TEST VEHICLE PHOTOGRAPHS FOR SPS WIM VALIDATION

September 19 and 20, 2006

STATE: Illinois

SHRP ID: 0600

Photo 1 - Truck_1_Tractor_TO_15_17_2.71_0600_09_19_06.JPG

Photo 2 - Truck_1_Trailer_Load_1_TO_15_17_2.71_0600_09_19_06.JPG

Photo 3 - Truck_1_TO_15_17_2.71_0600_09_19_06.JPG

Photo 4 - Truck_1_Suspension_1_TO_15_17_2.71_0600_09_19_06.JPG

Photo 5 - Truck_1_Suspension_2_TO_15_17_2.71_0600_09_19_06.JPG

Photo 6 - Truck_1_Suspension_3_TO_15_17_2.71_0600_09_19_06.JPG

Photo 7 - Truck_2_Tractor_TO_15_17_2.71_0600_09_19_06.JPG

Photo 8 - Truck_2_Trailer_TO_15_17_2.71_0600_09_19_06.JPG

Photo 9 - Truck_2_TO_15_17_2.71_0600_09_19_06.JPG

Photo 10 - Truck_2_Suspension_1_TO_15_17_2.71_0600_09_19_06.JPG

Photo 11 - Truck_2_Suspension_2_TO_15_17_2.71_0600_09_19_06.JPG

Photo 12 - Truck_2_Suspension_3_TO_15_17_2.71_0600_09_19_06.JPG

170600 August 2005 Key Parameters Summary
Reference Data Set (RDS)

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error	Status Clear	Good Weight	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
15-Aug	Mon	8953	PASS	PASS	0.8%	94.6%	98.2%	2208	25%	0%	58,243
16-Aug	Tue	8672	PASS	PASS	0.7%	94.3%	98.0%	2691	31%	0%	57,655
17-Aug	Wed	8767	PASS	PASS	0.6%	94.3%	98.4%	2840	32%	0%	58,757
18-Aug	Thu	9901	PASS	PASS	0.7%	94.6%	98.2%	2923	30%	0%	57,786
19-Aug	Fri	10362	PASS	PASS	0.8%	95.3%	97.9%	2342	23%	0%	55,865
20-Aug	Sat	9669	PASS	PASS	0.8%	96.7%	97.9%	1200	12%	0%	55,670
21-Aug	Sun	9678	PASS	PASS	0.8%	96.3%	98.2%	1616	17%	0%	59,735
22-Aug	Mon	8430	PASS	PASS	0.6%	95.1%	98.5%	2281	27%	0%	56,693
23-Aug	Tue	8013	PASS	PASS	0.7%	94.3%	98.2%	2698	34%	0%	57,571
24-Aug	Wed	8130	PASS	PASS	0.7%	93.8%	98.2%	2839	35%	0%	58,411
25-Aug	Thu	8538	PASS	PASS	0.6%	93.8%	98.2%	2906	34%	0%	58,349
26-Aug	Fri	9407	PASS	PASS	0.7%	94.7%	98.3%	2364	25%	0%	56,245
27-Aug	Sat	8271	PASS	PASS	0.7%	96.8%	98.3%	1200	15%	0%	56,394
28-Aug	Sun	8796	PASS	PASS	1.1%	95.9%	97.8%	1700	19%	0%	60,153
RDS (Avg)		**8971**	**PASS**	**PASS**	**0.7%**	**95.0%**	**98.2%**	**2272**	**26%**	**0**	**57,681**

170600 August 2005 Key Parameters Summary

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error	Status Clear	Good Weight	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
29-Aug	Mon	8075	PASS	PASS	0.7%	94.6%	98.0%	2303	29%	0%	56,541
30-Aug	Tue	7505	PASS	PASS	0.6%	93.8%	98.5%	2661	36%	0%	57,626
31-Aug	Wed	7831	PASS	PASS	0.7%	93.6%	97.8%	2758	35%	0%	57,258

170600 September 2005 Key Parameters Summary

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error	Status Clear	Good Weight	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-Sep	Thu	8720	PASS	PASS	0.6%	94.5%	98.3%	2887	33%	0%	57,384
2-Sep	Fri	10483	PASS	PASS	0.7%	96.0%	98.2%	2225	21%	0%	55,101
3-Sep	Sat	7776	PASS	PASS	0.5%	97.1%	98.6%	1034	13%	0%	55,771
4-Sep	Sun	7183	PASS	PASS	0.7%	97.2%	98.4%	701	10%	0%	56,810
5-Sep	Mon	10388	PASS	PASS	0.7%	96.5%	98.1%	1389	13%	0%	58,955
6-Sep	Tue	8271	PASS	PASS	0.7%	95.0%	97.9%	2218	27%	0%	55,905
7-Sep	Wed	7166	PASS	PASS	1.4%	90.6%	95.4%	2408	34%	0%	57,596
8-Sep	Thu	7498	PASS	PASS	1.7%	90.6%	94.7%	2692	36%	0%	57,986
9-Sep	Fri	8979	PASS	PASS	0.7%	95.1%	98.2%	2384	27%	0%	56,136
10-Sep	Sat	8002	PASS	PASS	0.5%	96.8%	98.7%	1398	18%	0%	55,918
11-Sep	Sun	8191	PASS	PASS	0.7%	95.7%	98.1%	1692	21%	0%	59,604
12-Sep	Mon	7579	PASS	PASS	0.5%	94.7%	98.4%	2296	30%	0%	56,901
13-Sep	Tue	7510	PASS	PASS	0.6%	93.7%	98.1%	2766	37%	0%	56,662
14-Sep	Wed	7982	PASS	PASS	0.7%	93.7%	98.3%	3000	38%	0%	57,872
15-Sep	Thu	8190	PASS	PASS	0.6%	93.1%	98.0%	3018	37%	0%	58,404
16-Sep	Fri	9372	PASS	PASS	0.6%	95.5%	98.3%	2507	27%	0%	55,348
17-Sep	Sat	7937	PASS	PASS	0.7%	96.3%	98.4%	1260	16%	0%	56,853
18-Sep	Sun	9031	PASS	PASS	0.8%	96.0%	98.0%	1600	18%	0%	59,418
19-Sep	Mon	7627	PASS	PASS	0.6%	94.8%	98.2%	2353	31%	0%	56,156
20-Sep	Tue	7568	PASS	PASS	0.5%	94.2%	98.2%	2759	37%	0%	57,224
21-Sep	Wed	7862	PASS	PASS	0.6%	94.0%	98.2%	2894	37%	0%	57,466
22-Sep	Thu	8433	PASS	PASS	0.4%	94.2%	98.2%	2934	35%	0%	56,842
23-Sep	Fri	9501	PASS	PASS	0.7%	95.4%	98.4%	2305	24%	0%	56,053
24-Sep	Sat	8238	PASS	PASS	0.6%	97.1%	98.6%	1211	15%	0%	56,790
25-Sep	Sun	8554	PASS	PASS	0.7%	96.5%	98.5%	1413	17%	0%	59,539
26-Sep	Mon	7393	PASS	PASS	0.6%	94.8%	98.3%	2240	30%	0%	56,861
27-Sep	Tue	7570	PASS	PASS	0.6%	94.4%	98.3%	2698	36%	0%	56,968
28-Sep	Wed	7686	PASS	PASS	0.7%	93.9%	98.0%	2771	36%	0%	57,254
29-Sep	Thu	8156	PASS	PASS	0.6%	94.1%	98.1%	2869	35%	0%	57,450
30-Sep	Fri	9298	PASS	PASS	0.7%	95.8%	98.0%	2332	25%	0%	55,418
Monthly Average		**8271**	**PASS**	**PASS**	**0.7%**	**94.9%**	**98.0%**	**2208**	**27%**	**0**	**57,088**

170600 October 2005 Key Parameters Summary

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error	Status Clear	Good Weight	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-Oct	Sat	7800	PASS	PASS	0.6%	96.8%	98.6%	1261	16%	0%	56,502
2-Oct	Sun	8767	PASS	PASS	0.8%	96.0%	98.0%	1585	18%	0%	59,683
3-Oct	Mon	8023	PASS	PASS	0.6%	95.5%	98.2%	2352	29%	0%	56,074
4-Oct	Tue	7782	PASS	PASS	0.5%	94.0%	98.0%	2850	37%	0%	57,459
5-Oct	Wed	8034	PASS	PASS	0.8%	93.5%	97.9%	2987	37%	0%	57,713
6-Oct	Thu	9099	PASS	PASS	0.6%	94.2%	98.0%	2984	33%	0%	57,734
7-Oct	Fri	9690	PASS	PASS	0.7%	95.4%	97.8%	2390	25%	0%	56,292
8-Oct	Sat	7870	PASS	PASS	0.5%	96.6%	98.4%	1199	15%	0%	57,100
9-Oct	Sun	8565	PASS	PASS	0.7%	96.4%	98.1%	1585	19%	0%	60,262
10-Oct	Mon	8994	PASS	PASS	0.5%	95.3%	98.2%	2240	25%	0%	56,900
11-Oct	Tue	7778	PASS	PASS	0.6%	94.2%	98.1%	2619	34%	0%	57,848
12-Oct	Wed	7767	PASS	PASS	0.8%	93.8%	97.7%	2712	35%	0%	58,350
13-Oct	Thu	8425	PASS	PASS	0.6%	94.3%	97.9%	2915	35%	0%	57,429
14-Oct	Fri	9403	PASS	PASS	0.7%	95.0%	97.6%	2240	24%	0%	55,691
15-Oct	Sat	8222	PASS	PASS	0.7%	96.4%	97.9%	1239	15%	0%	56,716
16-Oct	Sun	9311	PASS	PASS	0.8%	96.4%	97.9%	1590	17%	0%	60,023
17-Oct	Mon	7912	PASS	PASS	0.8%	94.3%	97.6%	2289	29%	0%	56,993
18-Oct	Tue	7937	PASS	PASS	0.7%	94.3%	97.6%	2863	36%	0%	57,045
19-Oct	Wed	7881	PASS	PASS	0.4%	94.0%	98.1%	2944	37%	0%	57,738
20-Oct	Thu	8436	PASS	PASS	0.7%	93.7%	97.9%	2865	34%	0%	58,348
21-Oct	Fri	9658	PASS	PASS	0.7%	95.6%	98.3%	2299	24%	0%	56,656
22-Oct	Sat	8394	PASS	PASS	0.7%	96.6%	98.0%	1215	15%	0%	55,848
23-Oct	Sun	8536	PASS	PASS	0.6%	95.8%	97.7%	1628	19%	0%	59,587
24-Oct	Mon	7681	PASS	PASS	0.7%	95.2%	98.0%	2280	30%	0%	57,084
25-Oct	Tue	7741	PASS	PASS	0.6%	94.9%	98.1%	2730	35%	0%	57,590
26-Oct	Wed	6611	PASS	PASS	1.6%	90.9%	94.6%	2218	34%	0%	57,930
27-Oct	Thu	8371	PASS	PASS	0.5%	94.3%	98.2%	2946	35%	0%	57,537
28-Oct	Fri	9546	PASS	PASS	0.6%	96.2%	98.1%	2313	24%	0%	55,288
29-Oct	Sat	8077	PASS	PASS	0.4%	97.1%	98.5%	1230	15%	0%	57,168
30-Oct	Sun	8585	PASS	PASS	0.7%	96.0%	97.8%	1512	18%	0%	59,654
31-Oct	Mon	7226	PASS	PASS	0.7%	94.8%	97.8%	2071	29%	0%	57,286
Monthly Average		**8363**	**PASS**	**PASS**	**0.7%**	**95.1%**	**97.9%**	**2203**	**27%**	**0**	**57,541**

170600 November 2005 Key Parameters Summary

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error	Status Clear	Good Weight	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-Nov	Tue	7695	PASS	PASS	1.0%	94.2%	97.3%	2741	36%	0%	57,058
2-Nov	Wed	7847	PASS	PASS	0.8%	94.3%	98.0%	2873	37%	0%	57,691
3-Nov	Thu	8273	PASS	PASS	0.6%	94.0%	97.7%	2943	36%	0%	57,916
4-Nov	Fri	9378	PASS	PASS	0.8%	94.8%	97.3%	2319	25%	0%	55,513
5-Nov	Sat	7776	PASS	PASS	0.6%	96.3%	98.2%	1256	16%	0%	57,624
6-Nov	Sun	8175	PASS	PASS	0.7%	96.2%	97.7%	1618	20%	0%	59,098
7-Nov	Mon	7528	PASS	PASS	0.5%	95.0%	98.2%	2248	30%	0%	56,943
8-Nov	Tue	7643	PASS	PASS	0.7%	93.9%	97.7%	2729	36%	0%	57,996
9-Nov	Wed	7929	PASS	PASS	0.6%	93.7%	96.8%	2837	36%	0%	57,507
10-Nov	Thu	8546	PASS	PASS	0.7%	94.2%	97.5%	2937	34%	0%	58,040
11-Nov	Fri	9639	PASS	PASS	0.7%	95.2%	97.7%	2315	24%	0%	56,243
12-Nov	Sat	8177	PASS	PASS	0.6%	95.3%	98.3%	1312	16%	0%	58,907
13-Nov	Sun	8642	PASS	PASS	0.6%	96.3%	97.7%	1522	18%	0%	59,546
14-Nov	Mon	7614	PASS	PASS	0.7%	95.6%	98.2%	2157	28%	0%	56,666
15-Nov	Tue	7388	PASS	PASS	0.7%	94.9%	98.0%	2674	36%	0%	57,408
16-Nov	Wed	7899	PASS	PASS	0.7%	94.7%	96.5%	2672	34%	0%	56,562
17-Nov	Thu	8717	PASS	PASS	0.8%	93.0%	94.8%	2847	33%	0%	55,905
18-Nov	Fri	10121	PASS	PASS	0.8%	96.0%	97.5%	2303	23%	0%	56,065
19-Nov	Sat	9198	PASS	PASS	0.8%	96.7%	97.9%	1280	14%	0%	56,839
20-Nov	Sun	2481	FAIL	PASS	0.4%	96.2%	97.9%	398	16%	0%	60,124
21-Nov	Mon	0	FAIL	FAIL						0%	
22-Nov	Tue	3106	FAIL	PASS	0.7%	95.6%	98.1%	976	31%	0%	58,426
23-Nov	Wed	11323	PASS	PASS	0.6%	96.4%	97.8%	2071	18%	0%	54,908
24-Nov	Thu	7425	PASS	PASS	0.7%	96.9%	97.5%	919	12%	0%	56,039
25-Nov	Fri	9110	PASS	PASS	0.4%	97.6%	98.1%	851	9%	0%	53,933
26-Nov	Sat	10419	PASS	PASS	0.7%	97.8%	98.4%	638	6%	0%	54,706
27-Nov	Sun	12291	PASS	PASS	0.5%	97.8%	98.9%	1509	12%	0%	59,658
28-Nov	Mon	8439	PASS	PASS	0.7%	95.9%	97.8%	2199	26%	0%	55,401
29-Nov	Tue	7924	PASS	PASS	0.6%	94.7%	96.9%	2734	35%	0%	56,217
30-Nov	Wed	8198	PASS	PASS	0.5%	94.9%	97.6%	2960	36%	0%	57,333
Monthly Average		**7963**	**PASS**	**PASS**	**0.7%**	**95.5%**	**97.7%**	**2029**	**25%**	**0**	**57,113**

System was off line from 12:00 p.m. November 20 thru 4:00 p.m. November 22, 2005. There is partial data only for Nov 20 and 22.
*Noted error - informed ENG and reboot system
*System functioning normally again

170600 December 2005 Key Parameters Summary

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error	Status Clear	Good Weight	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-Dec	Thu	7802	PASS	PASS	0.9%	93.4%	96.1%	2882	37%	0%	56,699
2-Dec	Fri	8615	PASS	PASS	1.9%	91.8%	93.1%	2206	26%	0%	52,259
3-Dec	Sat	7541	PASS	PASS	0.5%	97.4%	98.6%	1231	16%	0%	55,772
4-Dec	Sun	7803	PASS	PASS	0.5%	96.2%	97.3%	1732	22%	0%	58,663
5-Dec	Mon	7474	PASS	PASS	5.6%	85.9%	87.0%	2047	27%	0%	50,096
6-Dec	Tue	7338	PASS	PASS	2.2%	89.8%	91.4%	2563	35%	0%	53,486
7-Dec	Wed	7880	PASS	PASS	6.8%	84.7%	86.8%	2536	32%	0%	53,494
8-Dec	Thu	6211	PASS	PASS	1.4%	94.6%	96.8%	2268	37%	0%	55,788
9-Dec	Fri	7899	PASS	PASS	0.9%	96.5%	97.9%	2570	33%	0%	54,010
10-Dec	Sat	7530	PASS	PASS	0.9%	97.0%	98.0%	1251	17%	0%	54,506
11-Dec	Sun	6985	PASS	PASS	0.7%	96.8%	98.2%	1695	24%	0%	58,116
12-Dec	Mon	7330	PASS	PASS	0.6%	96.0%	98.1%	2332	32%	0%	54,682
13-Dec	Tue	8005	PASS	PASS	0.6%	96.0%	98.2%	2794	35%	0%	55,755
14-Dec	Wed	7406	PASS	PASS	1.0%	95.3%	97.7%	2735	37%	0%	56,194
15-Dec	Thu	9032	PASS	PASS	0.9%	96.2%	97.8%	2891	32%	0%	55,862
16-Dec	Fri	9270	PASS	PASS	0.8%	96.6%	97.6%	2228	24%	0%	53,215
17-Dec	Sat	9492	PASS	PASS	0.6%	98.0%	98.6%	1198	13%	0%	55,061
18-Dec	Sun	8355	PASS	PASS	0.4%	98.2%	98.9%	1728	21%	0%	58,179
19-Dec	Mon	8018	PASS	PASS	0.9%	97.4%	98.2%	2257	28%	0%	54,019
20-Dec	Tue	8296	PASS	PASS	0.7%	96.5%	98.1%	2662	32%	0%	54,968
21-Dec	Wed	8966	PASS	PASS	0.9%	96.1%	97.6%	2665	30%	0%	55,458
22-Dec	Thu	10072	PASS	PASS	0.8%	96.2%	98.0%	2539	25%	0%	54,800
23-Dec	Fri	10474	PASS	PASS	3.3%	94.9%	95.8%	1453	14%	0%	53,181
24-Dec	Sat	6578	PASS	PASS	1.0%	98.2%	98.7%	488	7%	0%	52,691
25-Dec	Sun	5333	PASS	PASS	1.0%	98.4%	98.8%	284	5%	0%	57,329
26-Dec	Mon	9360	PASS	PASS	0.7%	98.2%	98.9%	955	10%	0%	57,616
27-Dec	Tue	9061	PASS	PASS	0.5%	97.2%	98.8%	1897	21%	0%	56,126
28-Dec	Wed	8555	PASS	PASS	1.4%	95.9%	97.8%	2196	26%	0%	56,686
29-Dec	Thu	8821	PASS	PASS	0.5%	96.7%	98.8%	2265	26%	0%	56,937
30-Dec	Fri	9422	PASS	PASS	1.1%	96.7%	98.0%	1671	18%	0%	55,889
31-Dec	Sat	7385	PASS	PASS	0.5%	97.8%	98.7%	780	11%	0%	55,682
Monthly Average		**8139**	**PASS**	**PASS**	**1.3%**	**95.5%**	**96.9%**	**1968**	**24%**	**0**	**55,265**

5-Dec *informed ENG of increase in error rate (State - Ramon informed me temp was 20F)
6-Dec *informed ENG of increase in error rate (State - Ramon informed me temp was 15-20F)
7-Dec *ENG took corrective action - remote diagnostics, lowered threshold to better detect signals (State - Ramon informed me temp was 5-20F)
8-Dec *(State - Ramon informed me there was a snowstorm and temp of 10-20F, traffic volumes would be lighter as a result)
9-Dec *(State - Ramon informed me temp was 5-20F)
23-Dec *ENG noted that site did not answer when called
28-Dec *RCz had failed autopoll attempt

170600 January 2006 Key Parameters Summary

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error	Status Clear	Good Weight	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-Jan	Sun	6664	PASS	PASS	0.4%	98.4%	99.3%	608	9%	0%	59,467
2-Jan	Mon	8507	PASS	PASS	2.9%	95.4%	96.5%	1353	16%	0%	58,636
3-Jan	Tues	8011	PASS	PASS	0.9%	95.4%	98.1%	2163	27%	0%	56,580
4-Jan	Wed	7963	PASS	PASS	0.7%	95.9%	98.1%	2573	32%	0%	55,859
5-Jan	Thu	7995	PASS	PASS	0.6%	95.5%	98.1%	2867	36%	0%	56,565
6-Jan	Fri	8148	PASS	PASS	0.9%	95.5%	97.3%	2229	27%	0%	53,992
7-Jan	Sat	7809	PASS	PASS	0.7%	97.3%	98.3%	1185	15%	0%	55,542
8-Jan	Sun	7816	PASS	PASS	0.4%	97.3%	98.9%	1599	21%	0%	60,184
9-Jan	Mon	7252	PASS	PASS	0.6%	95.8%	98.6%	2169	30%	0%	56,205
10-Jan	Tue	7312	PASS	PASS	0.6%	96.5%	98.8%	2644	36%	0%	55,740
11-Jan	Wed	7494	PASS	PASS	0.8%	95.3%	98.1%	2883	39%	0%	57,031
12-Jan	Thu	7925	PASS	PASS	0.7%	94.7%	98.0%	3006	38%	0%	56,622
13-Jan	Fri	7978	PASS	PASS	0.7%	96.8%	98.5%	2196	28%	0%	53,771
14-Jan	Sat	7587	PASS	PASS	0.5%	97.9%	98.9%	1160	15%	0%	55,467
15-Jan	Sun	7535	PASS	PASS	0.5%	97.2%	98.8%	1516	20%	0%	60,024
16-Jan	Mon	8146	PASS	PASS	0.6%	96.5%	98.4%	2106	26%	0%	55,724
17-Jan	Tue	6960	PASS	PASS	0.9%	96.2%	97.9%	2564	37%	0%	55,338
18-Jan	Wed	7356	PASS	PASS	0.7%	96.2%	97.9%	2844	39%	0%	55,418
19-Jan	Thu	7517	PASS	PASS	0.6%	95.4%	98.3%	2799	37%	0%	57,046
20-Jan	Fri	7944	PASS	PASS	0.6%	95.9%	98.4%	2373	30%	0%	54,770
21-Jan	Sat	6675	PASS	PASS	0.5%	97.3%	98.7%	1163	17%	0%	55,774
22-Jan	Sun	6874	PASS	PASS	0.6%	97.1%	98.9%	1604	23%	0%	59,965
23-Jan	Mon	6943	PASS	PASS	0.4%	96.8%	98.5%	2227	32%	0%	55,187
24-Jan	Tue	7025	PASS	PASS	0.6%	96.0%	97.5%	2596	37%	0%	54,377
25-Jan	Wed	7453	PASS	PASS	0.5%	96.1%	98.2%	2779	37%	0%	55,658
26-Jan	Thu	7702	PASS	PASS	0.5%	95.9%	98.5%	2929	38%	0%	56,528
27-Jan	Fri	8438	PASS	PASS	0.7%	96.2%	98.2%	2313	27%	0%	53,955
28-Jan	Sat	7031	PASS	PASS	0.7%	97.5%	99.0%	1147	16%	0%	56,356
29-Jan	Sun	7101	PASS	PASS	0.7%	96.9%	98.3%	1634	23%	0%	60,027
30-Jan	Mon	7034	PASS	PASS	0.4%	96.2%	98.1%	2282	32%	0%	55,393
30-Jan	Tue	7258	PASS	PASS	0.5%	95.8%	98.1%	2693	37%	0%	56,735
Monthly Average		**7531**	**PASS**	**PASS**	**0.7%**	**96.4%**	**98.3%**	**2117**	**28%**	**0**	**56,440**

1-Jan *RCz had failed autopoll attempt. ESS and ENG notified. Field Rep dispatched to site.

2-Jan *ESS Rep reset modem. All functional-no data loss

170600 February 2006 Key Parameters Summary

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error	Status Clear	Good Weight	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-Feb	Wed	7584	PASS	PASS	0.8%	95.3%	97.9%	2865	38%	0%	56,570
2-Feb	Thu	7771	PASS	PASS	0.6%	95.7%	98.4%	2788	36%	0%	56,797
3-Feb	Fri	8558	PASS	PASS	0.6%	96.4%	98.2%	2289	27%	0%	54,538
4-Feb	Sat	7313	PASS	PASS	0.4%	97.8%	98.6%	1168	16%	0%	55,397
5-Feb	Sun	6712	PASS	PASS	0.5%	97.7%	98.7%	1540	23%	0%	58,813
6-Feb	Mon	7232	PASS	PASS	0.4%	96.8%	98.1%	2225	31%	0%	54,997
7-Feb	Tue	7117	PASS	PASS	0.6%	96.4%	98.1%	2595	37%	0%	55,448
8-Feb	Wed	7394	PASS	PASS	0.6%	95.4%	97.9%	2735	37%	0%	56,797
9-Feb	Thu	7810	PASS	PASS	0.4%	95.8%	98.0%	2884	37%	0%	56,551
10-Feb	Fri	8544	PASS	PASS	0.7%	96.6%	98.0%	2216	26%	0%	54,219
11-Feb	Sat	7065	PASS	PASS	0.5%	97.8%	98.9%	1095	16%	0%	56,825
12-Feb	Sun	7471	PASS	PASS	0.5%	97.5%	98.3%	1625	22%	0%	58,359
13-Feb	Mon	7395	PASS	PASS	0.5%	96.7%	98.1%	2223	30%	0%	54,835
14-Feb	Tue	7504	PASS	PASS	0.6%	95.9%	98.2%	2679	36%	0%	55,853
15-Feb	Wed	7636	PASS	PASS	0.6%	95.9%	98.4%	2746	36%	0%	56,005
16-Feb	Thu	8258	PASS	PASS	0.7%	95.8%	98.2%	2856	35%	0%	56,699
17-Feb	Fri	8864	PASS	PASS	0.5%	97.0%	98.2%	2188	25%	0%	54,067
18-Feb	Sat	6955	PASS	PASS	0.4%	98.2%	98.9%	1016	15%	0%	54,842
19-Feb	Sun	7540	PASS	PASS	0.5%	97.8%	98.6%	1384	18%	0%	59,085
20-Feb	Mon	8790	PASS	PASS	0.5%	96.7%	98.2%	2313	26%	0%	55,099
21-Feb	Tue	7634	PASS	PASS	0.6%	95.9%	97.9%	2617	34%	0%	55,306
22-Feb	Wed	7697	PASS	PASS	0.6%	95.8%	97.7%	2756	36%	0%	56,499
23-Feb	Thu	8246	PASS	PASS	0.6%	95.5%	97.8%	2879	35%	0%	56,229
24-Feb	Fri	9152	PASS	PASS	0.6%	96.8%	98.4%	2362	26%	0%	54,337
25-Feb	Sat	7756	PASS	PASS	0.5%	97.7%	98.6%	1179	15%	0%	55,999
26-Feb	Sun	8251	PASS	PASS	0.7%	97.4%	98.5%	1605	20%	0%	59,196
27-Feb	Mon	7626	PASS	PASS	0.7%	95.9%	98.0%	2178	29%	0%	54,642
28-Feb	Tue	7621	PASS	PASS	0.6%	95.6%	98.3%	2700	35%	0%	56,115
Monthly Average		**7768**	**PASS**	**PASS**	**0.6%**	**96.6%**	**98.3%**	**2204**	**28%**	**0**	**56,076**

170600 March 2006 Key Parameters Summary

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error	Status Clear	Good Weight	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-Mar	Wed	7976	PASS	PASS	0.6%	95.7%	98.4%	2942	37%	0%	56,497
2-Mar	Thu	8843	PASS	PASS	1.1%	94.9%	96.7%	2888	33%	0%	55,202
3-Mar	Fri	9343	PASS	PASS	0.9%	96.0%	97.6%	2300	25%	0%	54,463
4-Mar	Sat	8027	PASS	PASS	0.5%	97.7%	98.7%	1203	15%	0%	55,294
5-Mar	Sun	8058	PASS	PASS	0.5%	97.5%	99.0%	1636	20%	0%	59,668
6-Mar	Mon	7847	PASS	PASS	0.9%	95.6%	97.5%	2243	29%	0%	55,145
7-Mar	Tue	7765	PASS	PASS	1.1%	95.2%	97.6%	2652	34%	0%	55,810
8-Mar	Wed	7660	PASS	PASS	0.7%	95.6%	98.1%	2815	37%	0%	56,852
9-Mar	Thu	8226	PASS	PASS	0.8%	95.5%	98.0%	2857	35%	0%	56,388
10-Mar	Fri	10422	PASS	PASS	0.7%	96.7%	98.1%	2263	22%	0%	54,609
11-Mar	Sat	8278	PASS	PASS	0.7%	97.7%	98.6%	1192	14%	0%	56,136
12-Mar	Sun	8450	PASS	PASS	0.6%	97.3%	98.7%	1764	21%	0%	59,744
13-Mar	Mon	7838	PASS	PASS	1.1%	95.2%	96.9%	2262	29%	0%	55,207
14-Mar	Tue	7880	PASS	PASS	0.7%	95.2%	97.1%	2680	34%	0%	55,362
15-Mar	Wed	8066	PASS	PASS	0.7%	95.2%	98.0%	2878	36%	0%	56,782
16-Mar	Thu	8390	PASS	PASS	0.6%	95.7%	98.2%	2876	34%	0%	56,973
17-Mar	Fri	9125	PASS	PASS	0.8%	96.6%	98.2%	2262	25%	0%	54,406
18-Mar	Sat	8532	PASS	PASS	0.6%	97.6%	98.6%	1192	14%	0%	55,395
19-Mar	Sun	9011	PASS	PASS	0.5%	97.0%	98.4%	1608	18%	0%	60,071
20-Mar	Mon	7929	PASS	PASS	0.7%	96.3%	98.3%	2416	31%	0%	55,889
21-Mar	Tue	5807	PASS	PASS	0.7%	94.6%	98.0%	2488	43%	0%	57,308
22-Mar	Wed	7848	PASS	PASS	0.5%	96.1%	98.2%	2781	35%	0%	56,165
23-Mar	Thu	8355	PASS	PASS	0.7%	95.3%	97.7%	2922	35%	0%	56,358
24-Mar	Fri	9016	PASS	PASS	0.5%	96.1%	97.7%	2241	25%	0%	54,413
25-Mar	Sat	8674	PASS	PASS	0.5%	97.4%	98.5%	1142	13%	0%	55,949
26-Mar	Sun	9637	PASS	PASS	0.7%	97.4%	98.5%	1625	17%	0%	58,787
27-Mar	Mon	8250	PASS	PASS	0.6%	96.4%	98.3%	2239	27%	0%	55,526
28-Mar	Tue	8140	PASS	PASS	0.7%	95.2%	97.8%	2704	33%	0%	56,404
29-Mar	Wed	8297	PASS	PASS	4.8%	91.6%	93.9%	2724	33%	0%	57,415
30-Mar	Thu	9268	PASS	PASS	0.7%	94.8%	97.8%	3033	33%	0%	57,120
31-Mar	Fri	10215	PASS	PASS	0.9%	95.8%	97.2%	2215	22%	0%	55,127
Monthly Average		**8425**	**PASS**	**PASS**	**0.8%**	**96.0%**	**97.9%**	**2292**	**28%**	**0**	**56,338**

170600 April 2006 Key Parameters Summary

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error	Status Clear	Good Weight	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-Apr	Sat	10981	PASS	PASS	0.7%	96.7%	97.7%	1161	11%	0%	55,629
2-Apr	Sun	11281	PASS	PASS	0.6%	97.2%	98.4%	1618	14%	0%	59,880
3-Apr	Mon	8646	PASS	PASS	0.6%	95.9%	97.5%	2297	27%	0%	55,659
4-Apr	Tue	8367	PASS	PASS	0.6%	95.0%	97.1%	2739	33%	0%	56,499
5-Apr	Wed	8444	PASS	PASS	0.6%	95.0%	97.9%	2896	34%	0%	57,134
6-Apr	Thu	8521	PASS	PASS	0.6%	95.8%	98.2%	3062	36%	0%	57,664
7-Apr	Fri	9254	PASS	PASS	0.7%	96.1%	97.8%	2220	24%	0%	54,953
8-Apr	Sat	8880	PASS	PASS	0.4%	97.2%	98.3%	1238	14%	0%	56,766
9-Apr	Sun	9069	PASS	PASS	0.6%	96.7%	98.1%	1642	18%	0%	60,085
10-Apr	Mon	8564	PASS	PASS	0.6%	95.9%	98.2%	2272	27%	0%	56,250
11-Apr	Tue	8266	PASS	PASS	0.5%	94.9%	97.7%	2811	34%	0%	56,596
12-Apr	Wed	8596	PASS	PASS	0.7%	95.0%	97.2%	2929	34%	0%	56,457
13-Apr	Thu	9546	PASS	PASS	0.8%	94.6%	97.1%	2735	29%	0%	56,472
14-Apr	Fri	10041	PASS	PASS	0.9%	96.0%	97.5%	1767	18%	0%	55,197
15-Apr	Sat	8364	PASS	PASS	0.6%	97.2%	98.4%	954	11%	0%	56,736
16-Apr	Sun	9625	PASS	PASS	0.7%	97.1%	98.4%	1303	14%	0%	60,768
17-Apr	Mon	9526	PASS	PASS	0.7%	96.7%	98.5%	2189	23%	0%	55,956
18-Apr	Tue	8369	PASS	PASS	0.8%	95.4%	98.0%	2735	33%	0%	56,325
19-Apr	Wed	8198	PASS	PASS	0.7%	95.3%	97.7%	2839	35%	0%	57,067
20-Apr	Thu	8789	PASS	PASS	0.9%	94.4%	97.4%	2944	34%	0%	57,980
21-Apr	Fri	9698	PASS	PASS	0.9%	95.7%	97.7%	2364	24%	0%	55,095
22-Apr	Sat	9067	PASS	PASS	0.8%	96.7%	97.6%	1196	13%	0%	55,225
23-Apr	Sun	9862	PASS	PASS	0.7%	96.4%	97.8%	1609	16%	0%	59,582
24-Apr	Mon	8308	PASS	PASS	0.6%	95.6%	98.3%	2394	29%	0%	56,202
25-Apr	Tue	7493	PASS	PASS	0.5%	95.4%	98.4%	2704	36%	0%	57,002
26-Apr	Wed	7979	PASS	PASS	0.6%	94.7%	98.2%	2967	37%	0%	57,439
27-Apr	Thu	8538	PASS	PASS	0.7%	94.9%	97.5%	2914	34%	0%	57,266
28-Apr	Fri	9305	PASS	PASS	0.6%	95.4%	98.0%	2342	25%	0%	55,802
29-Apr	Sat	8212	PASS	PASS	0.5%	97.2%	98.8%	1219	15%	0%	57,403
30-Apr	Sun	8920	PASS	PASS	0.7%	96.9%	98.4%	1650	19%	0%	60,205
Monthly Average		**8957**	**PASS**	**PASS**	**0.7%**	**95.9%**	**97.9%**	**2190**	**25%**	**0**	**57,043**

170600 May 2006 Key Parameters Summary

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error	Status Clear	Good Weight	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-May	Mon	8171	PASS	PASS	0.8%	95.4%	98.0%	2339	29%	0%	56,787
2-May	Tue	8310	PASS	PASS	0.7%	94.8%	97.6%	2747	33%	0%	56,828
3-May	Wed	8342	PASS	PASS	0.7%	95.0%	98.1%	2848	34%	0`%	57,504
4-May	Thu	9119	PASS	PASS	0.6%	95.2%	98.2%	2944	32%	0%	57,886
5-May	Fri	9642	PASS	PASS	0.7%	95.7%	97.6%	2277	24%	0%	56,018
6-May	Sat	8527	PASS	PASS	0.6%	96.9%	98.3%	1187	14%	0%	56,590
7-May	Sun	9145	PASS	PASS	0.8%	96.6%	98.2%	1716	19%	0%	60,196
8-May	Mon	8045	PASS	PASS	0.7%	95.3%	97.9%	2286	28%	0%	56,293
9-May	Tue	8037	PASS	PASS	2.5%	93.1%	96.3%	2717	34%	0%	57,855
10-May	Wed	7690	PASS	PASS	0.9%	94.2%	97.4%	2727	36%	0%	57,808
11-May	Thu	8844	PASS	PASS	0.8%	95.3%	97.2%	2851	32%	0%	56,859
12-May	Fri	9805	PASS	PASS	0.7%	96.1%	97.5%	2199	22%	0%	55,479
13-May	Sat	8900	PASS	PASS	0.7%	97.3%	98.2%	1116	13%	0%	56,766
14-May	Sun	9295	PASS	PASS	0.6%	97.3%	98.5%	1478	16%	0%	60,860
15-May	Mon	7977	PASS	PASS	0.6%	96.1%	98.3%	2150	27%	0%	56,549
16-May	Tue	7872	PASS	PASS	0.7%	95.1%	98.0%	2657	34%	0%	57,037
17-May	Wed	8146	PASS	PASS	0.7%	95.1%	97.8%	2745	34%	0%	57,371
18-May	Thu	8517	PASS	PASS	0.7%	95.0%	97.4%	2827	33%	0%	57,027
19-May	Fri	9669	PASS	PASS	0.7%	96.2%	98.2%	2255	23%	0%	55,686
20-May	Sat	8555	PASS	PASS	0.7%	97.0%	98.3%	1190	14%	0%	56,468
21-May	Sun	8944	PASS	PASS	0.6%	96.6%	98.2%	1677	19%	0%	60,724
22-May	Mon	8184	PASS	PASS	0.6%	96.0%	98.5%	2243	27%	0%	56,835
23-May	Tue	7901	PASS	PASS	0.6%	95.7%	98.2%	2614	33%	0%	57,083
24-May	Wed	8151	PASS	PASS	0.6%	94.5%	97.9%	2801	34%	0%	58,108
25-May	Thu	9228	PASS	PASS	0.8%	95.0%	97.5%	2962	32%	0%	56,491
26-May	Fri	10589	PASS	PASS	0.6%	96.1%	97.7%	2211	21%	0%	55,641
27-May	Sat	9124	PASS	PASS	0.8%	97.1%	98.1%	1028	11%	0%	57,380
28-May	Sun	8242	PASS	PASS	0.8%	97.4%	98.1%	729	9%	0%	57,291
29-May	Mon	10903	PASS	PASS	0.8%	96.4%	97.6%	1443	13%	0%	59,426
30-May	Tue	9024	PASS	PASS	0.6%	95.9%	98.2%	2344	26%	0%	56,123
31-May	Wed	8261	PASS	PASS	0.7%	95.2%	98.0%	2697	33%	0%	57,494
Monthly Average		**8747**	**PASS**	**PASS**	**0.8%**	**95.8%**	**97.9%**	**2194**	**25%**	**0**	**57,305**

170600 June 2006 Key Parameters Summary

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error %	Status Clear %	Good Weight %	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-Jun	Thu	8,783	PASS	PASS	0.6%	94.6%	98.1%	2,867	33%	1%	58,307
2-Jun	Fri	9,556	PASS	PASS	0.8%	95.7%	98.0%	2,389	25%	0%	55,821
3-Jun	Sat	8,034	PASS	PASS	0.6%	96.8%	98.4%	1,295	16%	0%	56,725
4-Jun	Sun	8,653	PASS	PASS	0.7%	96.1%	98.1%	1,662	19%	0%	60,335
5-Jun	Mon	8,079	PASS	PASS	0.7%	95.4%	97.9%	2,188	27%	0%	56,661
6-Jun	Tue	7,951	PASS	PASS	0.7%	94.5%	97.9%	2,665	34%	0%	57,395
7-Jun	Wed	8,411	PASS	PASS	0.7%	94.5%	98.0%	2,893	34%	0%	57,580
8-Jun	Thu	8,862	PASS	PASS	0.5%	95.3%	98.1%	2,884	33%	0%	57,860
9-Jun	Fri	9,451	PASS	PASS	0.5%	96.0%	98.6%	2,244	24%	0%	56,162
10-Jun	Sat	7,970	PASS	PASS	0.6%	97.1%	98.8%	1,170	15%	0%	57,555
11-Jun	Sun	8,877	PASS	PASS	1.1%	95.8%	97.7%	1,630	18%	0%	60,803
12-Jun	Mon	8,413	PASS	PASS	0.6%	95.3%	98.1%	2,328	28%	0%	56,961
13-Jun	Tue	8,064	PASS	PASS	0.5%	94.5%	98.2%	2,688	33%	0%	57,668
14-Jun	Wed	8,460	PASS	PASS	0.6%	94.6%	98.0%	2,918	34%	0%	58,248
15-Jun	Thu	9,118	PASS	PASS	0.7%	94.7%	98.0%	2,999	33%	0%	58,514
16-Jun	Fri	9,813	PASS	PASS	0.8%	95.5%	97.9%	2,220	23%	0%	56,354
17-Jun	Sat	8,346	PASS	PASS	1.1%	95.7%	97.2%	1,136	14%	0%	57,767
18-Jun	Sun	9,207	PASS	PASS	0.8%	96.8%	98.4%	1,524	17%	0%	61,085
19-Jun	Mon	9,035	PASS	PASS	0.8%	95.4%	98.0%	2,306	26%	0%	57,421
20-Jun	Tue	8,332	PASS	PASS	0.5%	94.3%	97.9%	2,810	34%	0%	57,608
21-Jun	Wed	8,212	PASS	PASS	1.1%	93.0%	96.5%	2,721	33%	0%	57,987
22-Jun	Thu	8,934	PASS	PASS	0.6%	94.8%	98.2%	2,859	32%	0%	58,136
23-Jun	Fri	9,793	PASS	PASS	0.7%	95.1%	98.1%	2,301	23%	0%	56,628
24-Jun	Sat										
25-Jun	Sun										
26-Jun	Mon										
27-Jun	Tue	8,152	PASS	PASS	0.8%	66.8%	98.1%	751	9%	2%	179,707
28-Jun	Wed	7,487	PASS	PASS	3.0%	63.3%	92.2%	600	8%	3%	178,222
29-Jun	Thu	8,840	PASS	PASS	1.4%	65.0%	95.8%	757	9%	4%	178,767
30-Jun	Fri	11,249	PASS	PASS	0.6%	65.8%	97.8%	693	6%	4%	176,705
Monthly Average		**8744**	**PASS**	**PASS**	**0.8%**	**90.8%**	**97.7%**	**2055**	**24%**	**0**	**75,666**

June 24-26: Flash card was filled and system stopped collecting data; data manually removed from flash card; Engineering advised of issue.

International Road Dynamics
LTPP Key Parameters Summary
Illinois 170600 Site
July, 2006

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error %	Status Clear %	Good Weight %	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-Jul	Sat	10,257	PASS	PASS	0.7%	65.4%	97.9%	323	3.1%	4.0%	177,106
2-Jul	Sun	9,230	PASS	PASS	0.6%	65.8%	98.2%	249	2.7%	4.0%	180,838
3-Jul	Mon	8,804	PASS	PASS	0.9%	64.0%	97.7%	443	5.0%	3.0%	169,213
4-Jul	Tue	7,955	PASS	PASS	0.6%	66.6%	98.1%	325	4.1%	5.0%	180,871
5-Jul	Wed	9,452	PASS	PASS	0.5%	65.2%	98.3%	700	7.4%	3.0%	174,834
6-Jul	Thu	9,405	PASS	PASS	0.6%	66.3%	97.7%	721	7.7%	4.0%	176,218
7-Jul	Fri	9,980	PASS	PASS	0.8%	64.9%	97.8%	659	6.6%	3.0%	174,630
8-Jul	Sat	8,893	PASS	PASS	0.6%	65.1%	98.3%	327	3.7%	2.0%	176,424
9-Jul	Sun	9,402	PASS	PASS	0.5%	66.9%	98.3%	299	3.2%	4.0%	180,410
10-Jul	Mon	8,467	PASS	PASS	0.5%	64.6%	98.1%	661	7.8%	3.0%	174,669
11-Jul	Tue	8,097	PASS	PASS	0.7%	66.7%	97.9%	757	9.3%	3.0%	177,651
12-Jul	Wed	8,258	PASS	PASS	0.7%	85.4%	98.1%	2,021	24.5%	1.0%	73,788
13-Jul	Thu	8,989	PASS	PASS	0.5%	94.5%	98.2%	2,804	31.2%	0.0%	58,210
14-Jul	Fri	4,426	FAIL	PASS	0.8%	94.3%	97.8%	1,301	29.4%	0.0%	56,520
15-Jul	Sat	8,499	PASS	PASS	0.7%	97.0%	98.4%	1,206	14.2%	0.0%	57,158
16-Jul	Sun	9,336	PASS	PASS	1.2%	96.0%	97.8%	1,572	16.8%	0.0%	60,309
17-Jul	Mon	8,422	PASS	PASS	0.7%	94.8%	98.0%	2,247	26.7%	0.0%	56,244
18-Jul	Tue	8,127	PASS	PASS	0.7%	94.9%	98.2%	2,684	33.0%	0.0%	57,108
19-Jul	Wed	8,211	PASS	PASS	0.7%	94.8%	98.0%	2,645	32.2%	0.0%	57,352
20-Jul	Thu	8,909	PASS	PASS	0.8%	94.6%	98.0%	2,784	31.2%	0.0%	58,142
21-Jul	Fri	9,727	PASS	PASS	0.6%	96.3%	98.4%	2,176	22.4%	0.0%	54,575
22-Jul	Sat	8,552	PASS	PASS	0.6%	96.8%	98.3%	1,182	13.8%	0.0%	56,082
23-Jul	Sun	9,067	PASS	PASS	0.9%	96.2%	98.1%	1,610	17.8%	0.0%	60,179
24-Jul	Mon	5,305	FAIL	PASS	1.0%	95.0%	97.8%	1,246	23.5%	0.0%	55,471
25-Jul	Tue										
26-Jul	Wed	8,399	PASS	PASS	1.0%	65.1%	97.4%	816	9.7%	2.0%	176,869
27-Jul	Thu	9,011	PASS	PASS	1.5%	65.1%	96.8%	789	8.8%	3.0%	175,518
28-Jul	Fri	9,804	PASS	PASS	0.5%	64.4%	97.8%	716	7.3%	3.0%	174,944
29-Jul	Sat	8,498	PASS	PASS	0.6%	63.6%	98.0%	383	4.5%	3.0%	176,843
30-Jul	Sun	9,160	PASS	PASS	0.8%	64.8%	97.8%	375	4.1%	2.0%	181,309
31-Jul	Mon	8,476	PASS	PASS	0.6%	63.3%	97.8%	702	8.3%	4.0%	176,229
Monthly Average		**8,637**	**FAIL: 2**	**FAIL: 0**	**0.7%**	**77.9%**	**98.0%**	**1,157**	**14.0%**	**1.9%**	**125,524**

July 24 - 25: Flash card was filled and system stopped collecting data; data manually removed from flash card.

International Road Dynamics
LTPP Key Parameters Summary
Illinois 170600 Site
August, 2006

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error %	Status Clear %	Good Weight %	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-Aug	Tue	8,305	PASS	PASS	0.7%	64.5%	97.7%	784	9.4%	3.0%	176,577
2-Aug	Wed	8,209	PASS	PASS	0.6%	65.9%	97.6%	786	9.6%	3.0%	181,018
3-Aug	Thu	8,910	PASS	PASS	0.8%	75.4%	97.5%	1,629	18.3%	1.0%	93,453
4-Aug	Fri	9,743	PASS	PASS	0.9%	95.2%	97.9%	2,250	23.1%	0.0%	55,594
5-Aug	Sat	8,682	PASS	PASS	0.6%	96.7%	98.4%	1,169	13.5%	0.0%	56,170
6-Aug	Sun	9,571	PASS	PASS	0.9%	96.2%	98.0%	1,550	16.2%	0.0%	59,884
7-Aug	Mon	8,570	PASS	PASS	0.7%	95.7%	98.3%	2,104	24.6%	0.0%	55,980
8-Aug	Tue	8,195	PASS	PASS	0.5%	95.1%	98.4%	2,693	32.9%	0.0%	56,743
9-Aug	Wed	8,229	PASS	PASS	0.7%	95.0%	98.1%	2,703	32.8%	0.0%	58,048
10-Aug	Thu	8,522	PASS	PASS	0.6%	94.3%	98.3%	2,861	33.6%	0.0%	57,924
11-Aug	Fri	9,270	PASS	PASS	0.6%	96.0%	98.3%	2,149	23.2%	0.0%	55,114
12-Aug	Sat	8,293	PASS	PASS	0.6%	96.9%	98.3%	1,084	13.1%	0.0%	55,951
13-Aug	Sun	9,328	PASS	PASS	0.5%	96.6%	98.5%	1,601	17.2%	0.0%	60,280
14-Aug	Mon	8,482	PASS	PASS	0.8%	95.4%	97.9%	2,124	25.0%	0.0%	56,057
15-Aug	Tue	8,431	PASS	PASS	0.5%	94.8%	98.4%	2,601	30.9%	0.0%	56,698
16-Aug	Wed	8,731	PASS	PASS	0.6%	95.0%	98.2%	2,749	31.5%	0.0%	57,163
17-Aug	Thu	9,632	PASS	PASS	1.7%	93.6%	96.9%	2,838	29.5%	0.0%	57,635
18-Aug	Fri	9,919	PASS	PASS	0.8%	95.7%	98.1%	2,226	22.4%	0.0%	56,149
19-Aug	Sat	9,279	PASS	PASS	0.8%	97.0%	98.2%	1,172	12.6%	0.0%	56,071
20-Aug	Sun	9,279	PASS	PASS	0.8%	96.3%	98.2%	1,669	18.0%	0.0%	56,534
21-Aug	Mon	8,200	PASS	PASS	0.8%	95.0%	98.0%	2,198	26.8%	0.0%	56,706
22-Aug	Tue	7,597	PASS	PASS	1.0%	94.3%	97.4%	2,459	32.4%	0.0%	57,109
23-Aug	Wed	7,873	PASS	PASS	0.7%	95.5%	98.3%	2,689	34.2%	0.0%	57,408
24-Aug	Thu	8,159	PASS	PASS	0.6%	94.9%	98.1%	2,677	32.8%	0.0%	57,458
25-Aug	Fri	8,993	PASS	PASS	0.7%	95.8%	98.2%	2,152	23.9%	0.0%	55,187
26-Aug	Sat	7,652	PASS	PASS	0.6%	97.2%	98.7%	1,146	15.0%	0.0%	56,888
27-Aug	Sun	8,106	PASS	PASS	0.5%	96.7%	98.7%	1,539	19.0%	0.0%	59,528
28-Aug	Mon	7,675	PASS	PASS	0.5%	95.8%	98.3%	2,245	29.3%	0.0%	55,436
29-Aug	Tue	7,594	PASS	PASS	0.5%	94.7%	98.1%	2,686	35.4%	0.0%	56,640
30-Aug	Wed	7,880	PASS	PASS	1.2%	93.2%	97.3%	2,854	36.2%	0.0%	57,734
31-Aug	Thu	8,600	PASS	PASS	0.7%	94.1%	97.8%	2,925	34.0%	0.0%	56,724
Monthly Average		**8,578**	**FAIL: 0**	**FAIL: 0**	**0.7%**	**92.9%**	**98.1%**	**2,075**	**24.4%**	**0.2%**	**65,996**

International Road Dynamics
LTPP Key Parameters Summary
Illinois 170600 Site
September, 2006

Date	Day	Daily Cnt	Ln 0	Ln 2500	Error %	Status Clear %	Good Weight %	Cl 9 Cnt	Cl 9 % Cnt	Cl 9 % Wrn	Avg Cl 9
1-Sep	Fri	10,858	PASS	PASS	0.8%	96.6%	98.6%	2,181	20.1%	0.0%	54,458
2-Sep	Sat	9,059	PASS	PASS	0.7%	97.4%	98.8%	1,066	11.8%	0.0%	56,955
3-Sep	Sun	7,782	PASS	PASS	0.6%	97.6%	98.5%	640	8.2%	0.0%	57,548
4-Sep	Mon	10,793	PASS	PASS	0.9%	96.5%	97.6%	1,459	13.5%	0.0%	58,888
5-Sep	Tue	8,193	PASS	PASS	0.8%	94.9%	98.0%	2,232	27.2%	0.0%	55,698
6-Sep	Wed	7,789	PASS	PASS	0.6%	94.1%	97.7%	2,700	34.7%	0.0%	56,390
7-Sep	Thu	8,293	PASS	PASS	1.3%	93.5%	97.3%	2,839	34.2%	0.0%	57,357
8-Sep	Fri	9,038	PASS	PASS	0.7%	95.4%	97.8%	2,294	25.4%	0.0%	54,138
9-Sep	Sat	8,064	PASS	PASS	0.5%	97.1%	98.6%	1,313	16.3%	0.0%	54,823
10-Sep	Sun	8,303	PASS	PASS	0.8%	96.0%	98.2%	1,630	19.6%	0.0%	59,629
11-Sep	Mon	7,414	PASS	PASS	0.6%	95.0%	98.4%	2,288	30.9%	0.0%	56,583
12-Sep	Tue	7,419	PASS	PASS	0.7%	94.2%	98.2%	2,638	35.6%	0.0%	57,067
13-Sep	Wed	7,847	PASS	PASS	0.9%	93.8%	97.6%	2,920	37.2%	0.0%	57,607
14-Sep	Thu	8,166	PASS	PASS	0.6%	94.6%	98.3%	2,845	34.8%	0.0%	57,273
15-Sep	Fri	7,287	FAIL	PASS	0.9%	95.3%	97.8%	1,806	24.8%	0.0%	54,565
16-Sep	Sat										
17-Sep	Sun										
18-Sep	Mon										
19-Sep	Tue	7,421	PASS	PASS	0.9%	93.3%	96.9%	2,544	34.3%	0.0%	57,386
20-Sep	Wed	7,687	PASS	PASS	0.9%	93.0%	96.9%	2,858	37.2%	0.0%	57,653
21-Sep	Thu	8,219	PASS	PASS	0.9%	92.8%	97.8%	2,885	35.1%	0.0%	57,513
22-Sep	Fri	9,218	PASS	PASS	0.8%	93.9%	98.1%	2,128	23.1%	0.0%	56,684
23-Sep	Sat	7,718	PASS	PASS	0.6%	95.6%	98.5%	1,170	15.2%	0.0%	57,532
24-Sep	Sun	8,273	PASS	PASS	0.5%	95.2%	98.4%	1,570	19.0%	0.0%	60,721
25-Sep	Mon	7,701	PASS	PASS	0.8%	93.1%	97.8%	2,200	28.6%	0.0%	56,900
26-Sep	Tue	7,446	PASS	PASS	0.6%	91.8%	98.1%	2,660	35.7%	0.0%	57,576
27-Sep	Wed	7,870	PASS	PASS	0.6%	91.7%	98.0%	2,756	35.0%	0.0%	58,450
28-Sep	Thu	8,295	PASS	PASS	0.8%	91.6%	97.8%	2,803	33.8%	0.0%	58,339
29-Sep	Fri	9,481	PASS	PASS	0.9%	93.7%	97.9%	2,194	23.1%	0.0%	56,324
30-Sep	Sat	7,803	PASS	PASS	0.4%	95.8%	98.6%	1,235	15.8%	0.0%	57,010
Monthly Average		**8,275**	**FAIL: 1**	**FAIL: 0**	**0.7%**	**94.6%**	**98.0%**	**2,143**	**26.3%**	**0.0%**	**57,077**

September 16-18: Flash card was filled and system stopped collecting data; data manually removed from flash card; Engineering advised of issue.

INTERNATIONAL ROAD DYNAMICS INC.
224-176 W. Logan St. Noblesville In, 46060
☎ 317-502-1845 Fax: 240-337-8573

- Site Service Report -

Date:October 10, 2006

IRD SO.: 10591 A **IRD Contract No.:**

From: Travis Holton **To: ESS**

State: Illinois
Project Name/Location: I-57 Tuscola NB
Service Date(s): April 29, 2006

Job Description: Perform spring site check and replace scale card.

Work Completed:

- I replaced the old scale card and installed a new scale card with improved firmware
- I checked the operation and verified that the vehicle records looked proper
- I completed the electrical readings report for all the electrical components on site
- I shortened the ground leads to the sensor interface cards as Bruce had requested
- I cleaned out the cabinet to remove dirt and dust
- I photographed and checked the road installation
- The road installation was in excellent condition with no major cracking

Work Remaining: None.

Parts Used: Scale Interface Card PN: 195210

Mileage : 320 miles.

Hours Worked : 5 hours driving, 4 hours onsite. Total 9 hours.

Notes:
Action Items:

Item	Action Required	Ownership
1.		
2.		
3.		
4.		

International Road Dynamics Inc.

Site Service Sheet

Clear

Bending Plate **System Type:** iSINC

Date: 3/29/2006 **State:** IL **Location:** I-57 Mile Post 225.6
Job #: 10407A **Site #:** **Directions:** South of Champaign

Loops	Lane - 1		Lane -		Lane -		Lane -	
	Lead	Trail	Lead	Trail	Lead	Trail	Lead	Trail
Resistance	0.8	0.8						
Leakage	inf.	inf.						
Inductance	143uH	144uH						
Frequency	N/A	N/A						

Weighpads	Lane - 1		Lane -		Lane -		Lane -	
	Lead	Trail	Lead	Trail	Lead	Trail	Lead	Trail
Supply	977Ω	978Ω						
Signal	844Ω	844Ω						
Shield	inf.	inf.						
Zero Pt	0.00 mV	0.01 mV						
Serial #	175-3462	175-3465						

Piezos	Lane -		Lane -		Lane -		Lane -	
Amplitude								
Capacitance								
Resistance								

System

A/C Service	124 VAC
Power Supply	12.0 VDC
Solar Panel	N/A
Back-Up	13.5 VDC
System Input	N/A
Modem Power	11.87 VDC
Phone off hook	7.37 VDC
Phone on hook	53.8 VDC

Temp Sensor

Input	4.84VDC
Output	0.121VDC
Red to Wht	4.96 MΩ
Red to Blk	4.92 MΩ
Blk to Wht	40.9 KΩ

Technician: Travis Holton **Date:** 3/29/2006

INTERNATIONAL ROAD DYNAMICS INC.
224-176 W. Logan St. Noblesville In, 46060
☎ 317-502-1845 Fax: 240-337-8573

- Site Service Report -

Date:October 10, 2006

IRD SO.: 10407 A **IRD Contract No.:**

From:Tim Weber **To: ESS**

State: Illinois
Project Name/Location: I-57 Tuscola NB
Service Date(s): Sep 07, 2006

Job Description: Perform fall site check.

Work Completed:
- **I completed the electrical readings report for all the electrical components on site**
- **I photographed and checked the road installation**
- **The road installation was in excellent condition with no major cracking**
- **I checked the operation and verified that the vehicle records looked proper**

Work Remaining: None.

Parts Used: none

Mileage : 100 miles.

Hours Worked : 1 1/2 hours driving, 2 hours onsite. Total 3 1/2 hours.

Notes:
Action Items:

Item	Action Required	Ownership
1.		
2.		
3.		
4.		

International Road Dynamics Inc.

Site Service Sheet

Clear

Bending Plate **System Type:** ISINC

Date: 7/9/2006 **State:** Illinois **Location:** I-57 Mile Post 225.6
Job #: 10407A **Site #:** Tuscola **Directions:** South of Champaign

Loops

	Lane - 1		Lane -		Lane -		Lane -	
	Lead	Trail	Lead		Lead		Lead	
Resistance	1.1	1.5						
Leakage	INF	INF						
Inductance	144uH	144.5nH						
Frequency	N/A	N/A						

Weighpads

	Lane - 1		Lane -		Lane -		Lane -	
	Lead	Trial						
Supply	988Ω	989Ω						
Signal	845Ω	845Ω						
Shield	INF	INF						
Zero Pt	0.00mv	0.00mv						
Serial #	175-3462	175-3465						

Piezos

Amplitude								
Capacitance								
Resistance								

System

A/C Service	122vac
Power Supply	11.85vdc
Solar Panel	N/A
Back-Up	13.5 vdc
System Input	N/A
Modem Power	11.84vdc
Phone off hook	7.41vdc
Phone on hook	53.7vdc

Temp Sensor

Input	4.62vdc
Output	0.312VDC
Red to Wht	6.33 MΩ
Red to Blk	6.28 MΩ
Blk to Wht	40.75KΩ

Technician: Tim Weber **Date:** 7/9/2006