Assessment Report for
New Mexico, SPS 1

Visit date: February 18 and 19, 2004

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1 Executive Summary

A visit was made to the New Mexico SPS-1 site on February 18 and 19, 2004 for the purpose of conducting an assessment of the WIM system located on Interstate 25, at milepost 36.245, approximately 0.8 miles north of the Rincon Interchange. The LTPP lane is in the northern direction and is identified as lane number 1 in the WIM controller. **This site is currently not a candidate for evaluation and calibration**.

The site is instrumented with MSI piezo weighing sensors and an ITC Mikros RAKTEL-8000 WIM controller. All of the equipment appears to be in working order with the exception of the trailing piezo sensor, which is not providing any output signal to the WIM controller. Therefore, at present, the site is not collecting any data.

There is no data to support a Sheet 16 for classification verification since the equipment is not collecting any data. **This will need to be a part of the next assessment or evaluation.**

There was no pavement distress discovered that would significantly influence truck motions. However, due to the fact that the WIM site is located on a significant incline (4%) and on a curve, the majority of the trucks were traveling on the outside or inside of the lane rather than down the center of the lane.

The WIM index was exceeded at all the locations.

A review of the speed information collected on-site indicates that the range of truck speeds to be covered during an evaluation is 55 to 75 mph.

This site has 4 years of classification data and 2 years of weight data. Based on available calibration information and review of the data submitted through last year, **this site still needs 5 years of data to meet the need for 5 years of research quality data.** There is no validation information for this site as of the December 2003 upload.

2 Corrective Actions Recommended

The location issue is considered important because trucks not traveling completely in the lane have a strong potential to not hit both sensors with all tires on all axles. This can lead to significant numbers of missed or misclassified vehicles. There are the two options to address the various site-related issues.

1. **Shifting the site to a new location:** Due to the severe grade and curvature of the road at the present WIM location, it is recommended that the site be moved approximately 500 feet south. This location contains no pavement distresses, indicates no discernable truck movements such as bouncing or swerving. It has a lesser grade than that of the existing site, and it is not in close proximity to any road curvature. Existing roadside equipment such as cabinet, telephone and power, and WIM controller can be reused. If the WIM system is relocated then the below mentioned actions should be taken.
   a) Maintenance or rehabilitation to remove potential impacts of the existing system on truck dynamics. This includes either replacement or patching and grinding of the existing pavement section. We would highly recommend that profile data be collected prior to any maintenance or rehabilitation activities as a benchmark for the work to be performed.
   b) The abandoned WIM sensor installations located 50 feet downstream sensors should be completely removed and the sensor channels filled in.
   c) Rehabilitation to meet the smoothness criteria for the proposed sites based on profile data and a smoothness index evaluation.

2. **Remain in the existing location:**
   The trailing piezo weighing sensor is providing no output signal to the controller. At a minimum, this sensor will need to be replaced to return the WIM system to a fully functional condition. Since piezo sensors function as a matched set, the leading sensor should be replaced in conjunction with the trailing sensor.

   The WIM site pavement section should be either ground or replaced prior to sensor replacement.

Our recommendation is to shift the site to a new location in order to address the geometric issues.

The traffic data for 2001 should be reexamined.

3 Equipment inspection and diagnostics

There are two WIM sensor installations at this location, one abandoned and the one currently connected to the controller in which, the trailing piezo sensor is providing no output signal.

The 12-foot weighing sensors are installed 13 feet apart. A 6-foot wide by 8-foot long loop sensor is installed between the piezo sensors for vehicle presence detection. The WIM system utilizes an ITC Mikros RAKTEL-8000 WIM Controller for signal processing, data storage, user interface and remote operation.

A complete electrical check of all support service components including the solar power equipment and telephone service was performed. All support equipment appears to be working properly.

An electronic check of all WIM components was performed. The trailing sensor measured no output signal. All other in-road sensors and the WIM controller are working properly.

A visual inspection was conducted of all system components, including in-road sensors, cabinet, pull boxes, service mast, solar panels and conduit as well as the telephone service components. All components appear to be in excellent physical condition.

A visual inspection of the abandoned WIM installation noted cracking of the epoxy and pavement around the edge of the WIM sensors near the road centerline.

4 Classification Verification with test truck recommendations

The agency uses the 6-digit truck weight study with unknowns assigned the value 15 for weight data. However, there is no information on any weight ranges associated with the scheme. The classification data is submitted using the FHWA Traffic Monitoring Guide 13-bin classes.

A sample with 87 trucks and three hours of visual data was collected at the site. Video was taken at the site to provide ground truth for the evaluation. Due to the non-functional weigh sensor the classification and speed comparisons could not be done on site.

In comparison with 2001 WIM data, the last year for which data is available in this lane, the percentages are similar. There are about 63 percent Class 9s, a 25 percent split between Classes 4 and 5 and less than 10 percent Class 6s or 8s. The classification data, however, when irrational months are removed, indicates 41 percent Class 9s, 12 percent Class 8s, 22 percent Class 6s and 15 percent Class 5s. The WIM data was obtained in January, the classification data in November and December. Both comparisons were limited to Wednesdays and Thursdays.

A review of the site data both collected on site and previously submitted by the agency indicated that Class 9 and Class 5 constitute at least 10 percent of the truck population. Based on this information in addition to the air-suspension 3S2, the second vehicle used for evaluation should be a Class 9. Due to the length of the truck turn around one additional vehicle should be utilized. It is recommended that this vehicle be a Class 5.

There is not sufficient data at present to recommend if the test trucks are to be fully or partially loaded.

5 Profile Evaluation

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. The Long Range Index (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 short Range Index (SRI) incorporates a shorter section of pavement profile beginning 2.7 m prior to the WIM scale and ending 0.5 m after the scale.

Profile data collected at the SPS WIM location by Fugro-BRE, Inc. on November 22, 2003 have been processed through the LTPP SPS WIM Index software. This WIM scale is installed on an asphalt concrete pavement. The results are shown in Table 1.

A total of 8 profiler passes have been 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 done 4 passes at the center of the lane, 2 passes shifted to the left side of the lane, and 2 passes shifted to the right side of the lane. Shifts to the sides of the lanes have been made such that data are collected as close to the lane edges as is safely possible. For each profiler pass, profiles are recorded under the left wheel path (LWP), and the right wheel path (RWP).

Table 1 shows the computed index values for all 8 profiler passes for this WIM site. The average values over the passes at each path are also calculated when three or more passes are completed. These are shown in the right most column of the table. Values above the index limits are presented in italics.

Table 1 Long Range Index (LRI) and Short Range Index (SRI)

Profiler Passes			Pass 1	Pass 2	Pass 3	Pass 4	Ave.
Center	LWP	LRI (m/km)	*1.146*	*1.155*	*1.121*	*1.181*	***1.151***
		SRI (m/km)	*1.646*	*1.565*	*1.243*	*1.501*	***1.489***
	RWP	LRI (m/km)	*0.936*	*0.988*	*1.003*	*0.998*	***0.981***
		SRI (m/km)	*1.752*	*1.551*	*1.609*	*1.509*	***1.605***
Left Shift	LWP	LRI (m/km)	*1.281*	*1.222*			
		SRI (m/km)	*1.603*	*1.551*			
	RWP	LRI (m/km)	*1.041*	*1.091*			
		SRI (m/km)	*0.893*	*1.294*			
Right Shift	LWP	LRI (m/km)	*1.136*	*1.141*			
		SRI (m/km)	*1.584*	*1.574*			
	RWP	LRI (m/km)	*0.947*	*0.797*			
		SRI (m/km)	*0.913*	*0.845*			

All locations exceeded the WIM Index value of 0.789 m/km as can be seen in the table above. When all values are less than 0.789 it is presumed unlikely that pavement roughness will significantly influence sensor output. Values above that level may or may not influence the reported weights and potentially vehicle spacings. **Based on the profile data analysis, the New Mexico SPS-1 WIM site does not meet the requirements for WIM site locations.** If any remedial action is taken it should be done for the entire section. **Suggested alternatives for pavement corrections at this location are grinding or pavement replacement. Again, these suggestions are only applicable if the Agency decides not to relocate the site.**

6 Distress survey and any applicable photos

A visual inspection of the pavement 425 feet in advance of the WIM area and 75 feet following the WIM area was conducted. No pavement distress that would affect the performance of the WIM scales was discovered.

There is an abandoned WIM installation approximately 50 feet following the present location. This does not appear to influence truck dynamics as they pass over the present WIM scale location.

Figure 13-1 and Figure 13-2 show the condition of the pavement in the downstream and upstream directions respectively. Figure 13-3 shows the abandoned WIM site.

7 Vehicle-pavement interaction discussion

During a visual survey of the truck dynamics in the area of the WIM scales, no discernable horizontal or vertical truck movement was detected, however, due to fact that the WIM site is located in the middle of a significant road curvature, a majority of the trucks are over steering or under steering the curve, causing them to drive on the inside or outside of the lane, respectively. The truck tires appear to be fully touching the sensors when the trucks are traveling in the lane.

8 Speed data with speed range recommendations for evaluation

Based on the data collected on site the 15^{th} and 85^{th} percentile speeds for Class 9s are 60 and 70 mph respectively. The upper end of the range is below the posted speed limit of 75 mph. This range does not vary significantly for other truck classes. As a result the recommended speeds for test trucks in an evaluation are 55, 65 and 75 mph. The wider range is suggested because there are vehicles traveling at the lower end of the range.

Comparison of measured speed and speed collected by the WIM equipment could not be completed since the equipment is not functioning at present.

9 Traffic Data review: Overall Quantity and Sufficiency

As of February 19, 2004 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. The precision requirements are shown in Table 2. .

Table 2 Precision and Bias Requirements for Weight Data

Pooled Fund Site	95 Percent Confidence Limit of Error
Single Axles	± 20 percent
Axle groups	± 15 percent
Gross Vehicle Weight	± 10 percent
Vehicle Speed	±1 mph (2 kph)
Axle Spacing	± 0.5 ft (150 mm)

Data that has validation information available is 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 3. 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 there is not sufficient quantity for any of the years to be considered complete years of data. There is no validation information for this site in the traffic database as of the December 2003 upload. In the absence of sufficient data and 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 classification and weight data.

Table 3 Amount of Traffic Data Available

Year	Class Days	Months	Coverage	Weight Days	Months	Coverage
1998	48	3	Complete Week	51	3	Complete Week
2000	2	1	Wednesday and Friday	N/A	N/A	N/A
2001	60	4	Complete Week	25	1	Complete Week
2002	192	11	Complete Week	N/A	N/A	N/A

To evaluate the consistency of the existing data and determine its probable quality a series of reports and graphs have been generated. They include the SPS Summary report, vehicle distribution graphs, GVW distributions both over all years and by month within years, average daily steering axle weights for Class 9 vehicles, and ESAL graphs.

Based on this review it is recommended that further investigation be done to determine the reason for the drastic shift in the percentage of Class 9 vehicles between 1998 and

2000. The change in percentage is also reflected in the change in the average number of Class 9 vehicles weighed between 1998 and 2001. One or both sets of data may need to be omitted from further use in the traffic database depending on the findings of that investigation. It may be, however, that one set of data is site-related and the other is site-specific. In that case a determination will have to be made on whether the site-related data should be retained or replaced with Traffic Data Sheet 10 estimates.

9.1 SPS Summary Report

The overall report is the SPS Summary Report. This report uses sets of benchmark data based on calibration information or consistent, rational data patterns. The report shows the trend in some basic statistics at the site over time. It provides a numeric equivalent to the graphs typically run for the comparison evaluation process. It includes the number of days of data and statistics associated with Class 9 vehicles. They include the average volumes, average ESALs, the average steering axle weight and mean loaded and unloaded weight on a monthly basis. Class Days and Percent Class 9s are generated from classification data submissions. All other values come from the weight data submissions. Counts derived from weight data are available for all months. Steering axle and weight statistics are only present when that data was loaded through LTPP's new traffic analysis software, since it is the only software that calculates them. The data is separated into blocks that depend on when the site was validated. Where there is no validation record an initial time point has been picked at which continuous data exists and that data is used as the basis for comparison. Excluded months have no data.

Table 4 SPS Summary Report

New Mexico 0100
North Lane 1

Comparison Date Weight - 23-October-1998 Classification - 23-October-1998

Month-Year	Class Days	Percent Class 9s	Weight Days	Average No. Class 9s	Avg.ESALs Per Class 9	Average Class 9 Steering	Mean Loaded Weight	Mean Unloaded Weight
Comparison values		9.1		205	1.56		81,812	35,507
OCT 1998	9	8.6	12	170	1.56		85,489	35,468
NOV 1998	30	8.1	30	197	1.51		81,811	35,788
DEC 1998	9	11.8	9	251	1.58		77,961	35,561
NOV 2000	2	3.2						
JAN 2001			25	26	1.33	8,852	65,898	33,883
SEP 2001	12							
OCT 2001	9							
NOV 2001	10	1.7						
DEC 2001	29	2.1						
JAN 2002	1	0.8						
MAR 2002	10	2.0						
APR 2002	20	3.8						
MAY 2002	12	3.1						
JUN 2002	23	2.3						
JUL 2002	13	2.6						
AUG 2002	16	2.4						
SEP 2002	28	2.0						
OCT 2002	18	2.3						
NOV 2002	26	2.0						
DEC 2002	25	2.2						

As seen from Table 4 from the limited available classification data it appears that the percent of Class 9s in the traffic stream as a whole was significantly higher in 1998 compared to 2000 and 2002. In 2000 and 2001 the percentage was essentially the same. From the limited available weight data it appears that the average number of Class 9s decreased almost ten fold from 1998 to 2001. Also, the average ESALs per Class 9s, mean loaded and unloaded weights were significantly higher in 1998 compared to 2001.

9.2 Vehicle Distribution

The vehicle distribution graphs indicate whether the fleet mix is stable over time and any day of week or seasonal patterns that may exist. The vehicle distribution graphs contain two types of comparisons, one between data types and one over time. The between types comparison is represented by the two columns for every time unit present. The column on the left labeled with a 4 is for classification data. The right hand column of the pair is for weight data. Whether or not the data is equivalent is perhaps more important than the variation over time.

Figure 14-1 shows a by week pattern for heavy truck classification data. The individual weeks show essentially the same heavy truck mix. Every vehicle in Classes 6 through 13 that constitutes at least 10 percent of the population is expected to stay within plus or minus 5 percent of the value observed during the two weeks following validation. This range is shown by the darker band inside the lighter band to the right of the weekly data. Weeks that go outside more than plus or minus 10 percent of the expected value will fall above or below the light gray areas of the band. These are weeks that should have been subjected to additional scrutiny prior to accepting the data as reasonable.

For this site, the fleet mix is essentially the same during November 1998. A typical graph for this period is shown in Figure 14-1 there was no significant difference in the mix graphed for the weight data as shown in Figure 14-2. However, there was a significant increase in Class 8s in 2002 as compared to 1998 as seen in Figure 14-3 for classification data. At the same time the number of Class 6s and Class 11s became negligible. The reason for this change is unknown.

Figure 14-4 shows a pattern for vehicle distribution by month by year for the data collected from the classifier versus the data collected by the WIM equipment. As seen from the graph there is limited data from which to draw conclusions. However, from the available data it appears that the data collected by the classifier and the WIM equipment are generally similar. The data comparison in 2001 cannot be done since in the month the data was collected by the WIM equipment the classifier did not collect any data. There is no WIM equipment data for 2000 and 2002 for the LTPP lane.

To illustrate the reason that review of volumes is suggested Figure 14-5 through Figure 14-7 have been included. They show the large drop in volumes and the variation in the mix between data sources.

9.3 GVW Distributions for Class 9s

The Class 9 GVW graph is a generally accepted way to evaluate loading data reported at a site. A typical graph has two peaks, one between 28,000 and 36,000 pounds and the other between 72,000 and 80,000 pounds. The first is the unloaded peak. The second, the loaded peak, reflects the legal weight limit for a 5-axle tractor-trailer vehicle on the interstate highway system. Additionally, it is expected that less than 3 percent of the trucks will be excessively light (less than 12,000 pounds) and less than 5 percent will be significantly overweight (in excess of 96,000 pounds). Data that falls outside of the expected conditions needs a record of validation to verify that the pattern is in fact correct for the location. Data meeting the expected patterns is not automatically considered to be of research quality, merely rational as bias in scale measurements may shift the peaks in the data from their true values.

The overall assessment of loading patterns is done using a Class 9 GVW graph by year over the available years. In Figure 14-8 the unloaded peak shifted away from the range in 1998 whereas the loaded peak was within the range. However, in 2001 the data did not show the same trend as in 1998. The peaks were not in the typical locations for this vehicle class.

To investigate any seasonal variations the Class 9 GVW distributions are graphed by month by year. As shown in Figure 14-9 in October and November the trend was similar whereas in December the peak unloaded percentage was slightly less and the peak loaded percentage was significantly higher compared to the two months. The reason for this variation is unknown at present.

9.4 Axle Distributions

Axle distribution graphs were not needed for the data review, as the GVW graphs were available for all years.

9.5 ESALs per year

Average ESALs for Class 9 vehicles are a very crude method of identifying loading shifts. Figure 14-10 shows the average Class 9 ESALs per month for this location. To remove the influence of changing pavement structure all ESAL values have been computed with and SN = 5 and a p_t of 2.5. Average ESALs per Class 9 are not used as an indicator of research quality data. As seen from the graph there is not sufficient data to suggest any conclusions.

9.6 Average Daily Steering Axle Weight

A frequently used statistic for checking scale calibration and doing auto-calibration of WIM equipment is the weight of the front axle. This value is site specific and should be relatively constant particularly for loaded Class 9s (vehicles in excess of 60,000 lbs.). Typically when auto calibration is used this value either cycles repeatedly or with very large truck volumes results in an essentially straight line for the mean. As shown in Figure 14-11 there is not sufficient data to provide any conclusions.

10 Updated handout guide and Sheet 17

A copy of the handout guide has been included following page 19. It includes a current Sheet 17 with all applicable maps and photographs. There are no significant changes in the information provided except the briefing location.

11 Updated Sheet 18

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

12 Traffic Sheet 16(s) (Classification Verification only) (Omitted)

There is not sufficient data to complete a sheet 16.

13 Distress Photographs

Figure 13-1 Pavement Condition of 350100 in Downstream Direction (Distress Photo 1)

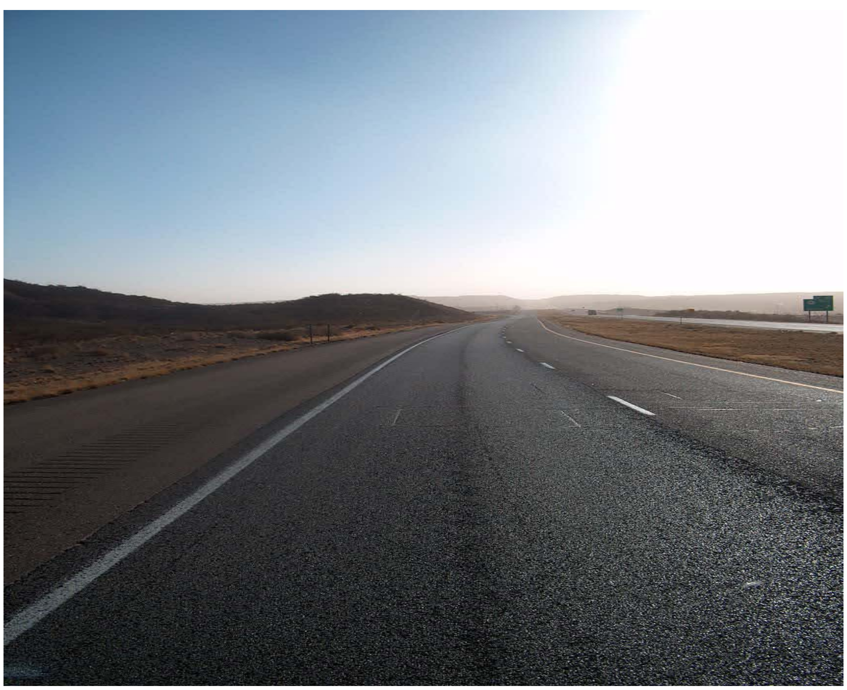


Figure 13-2 Pavement Condition of 350100 in Upstream Direction (Distress Photo 2)

Figure 13-3 Abandoned WIM Sensor Locations at 350100

14 Traffic Graphs

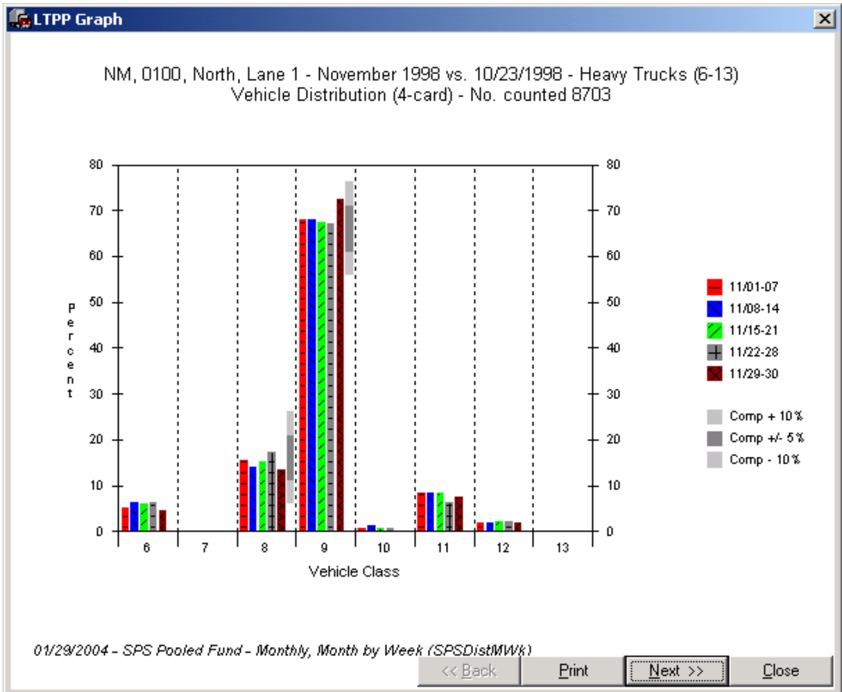


Figure 14-1 Heavy Truck Distribution Pattern for Classification Data in November 1998 for 350100

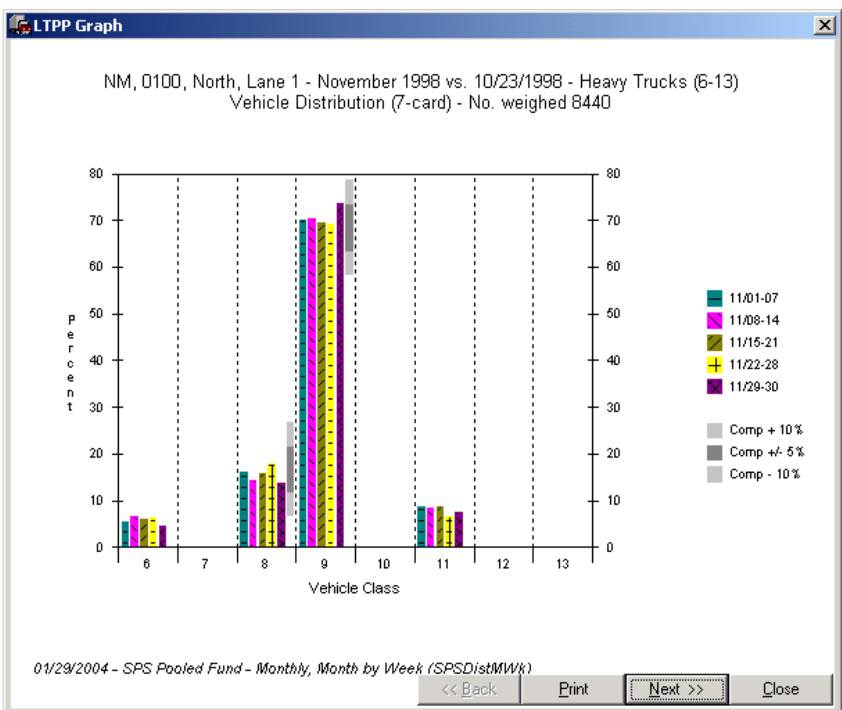


Figure 14-2 Heavy Truck Distribution Pattern for Weight Data in November 1998 for 350100

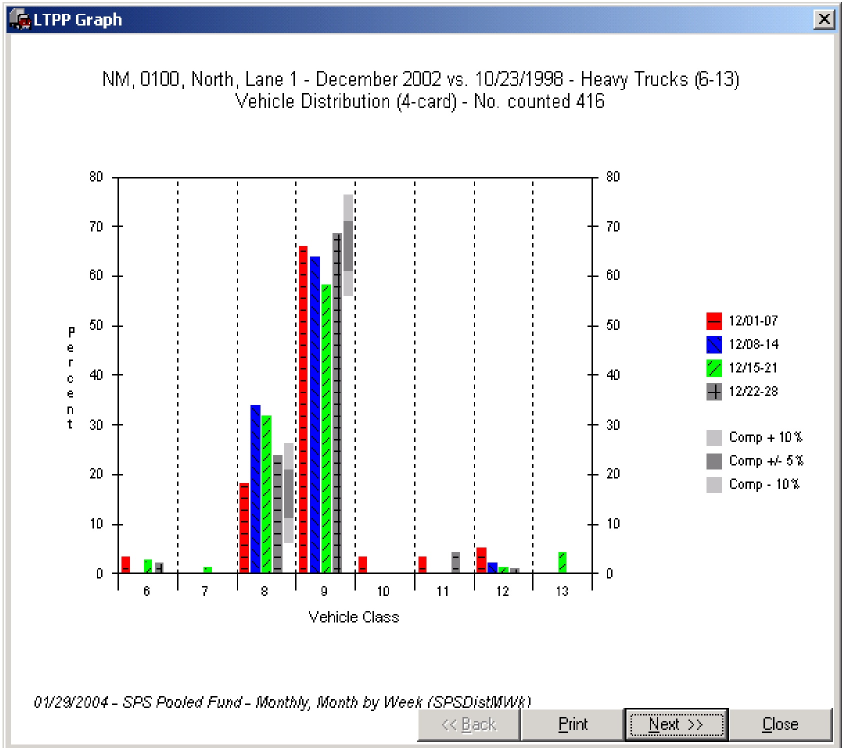


Figure 14-3 Heavy Truck Distribution Pattern for Classification Data in December 2002 for 350100

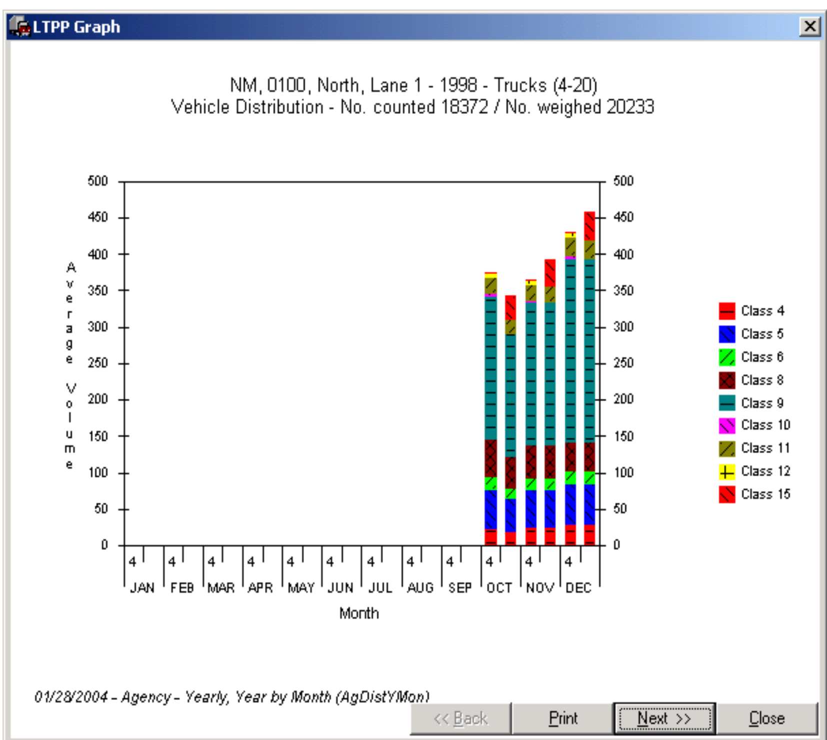


Figure 14-4 Vehicle Distribution by Month for the Year 1998 for 350100

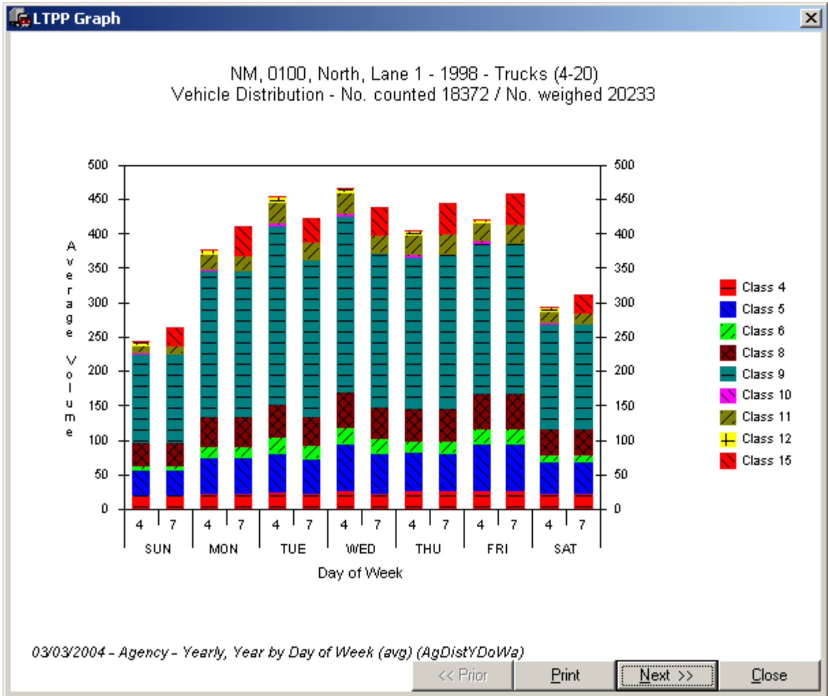


Figure 14-5 Yearly Day of Week Distribution by Average Volume – 1998 for 350100

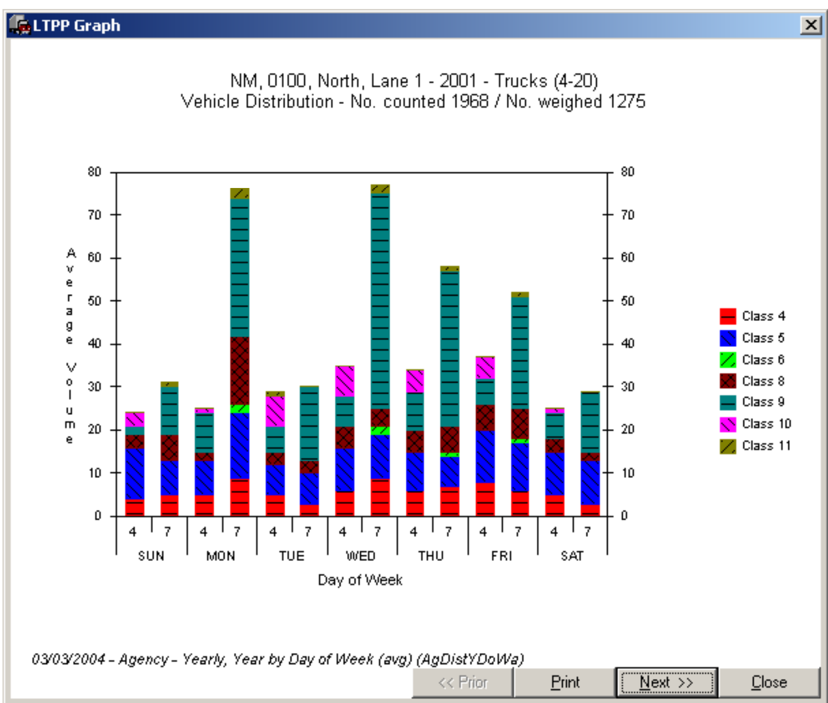


Figure 14-6 Yearly Day of Week Distribution by Average Volume – 2001 for 350100

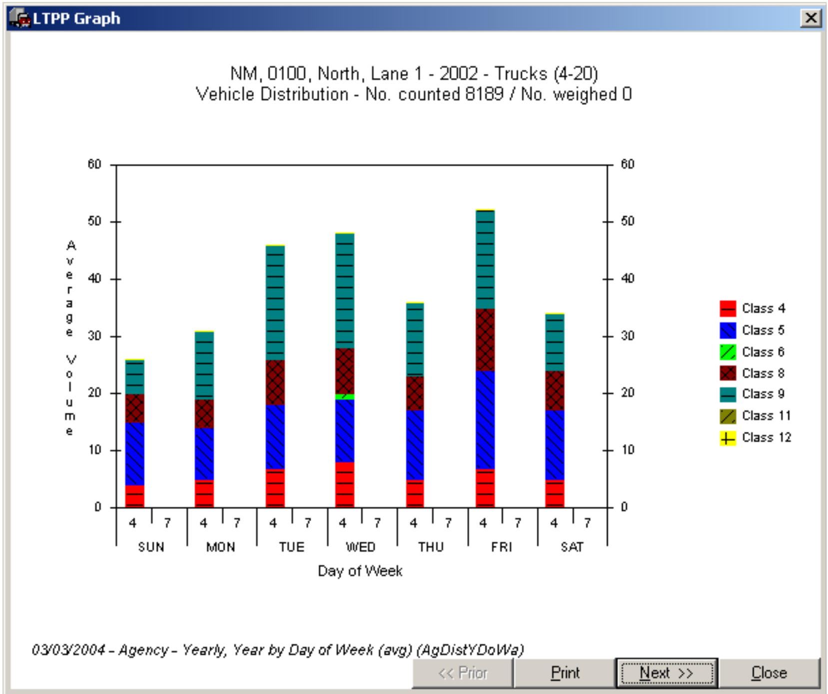


Figure 14-7 Yearly Day of Week Distribution by Average Volume – 2002 for 350100

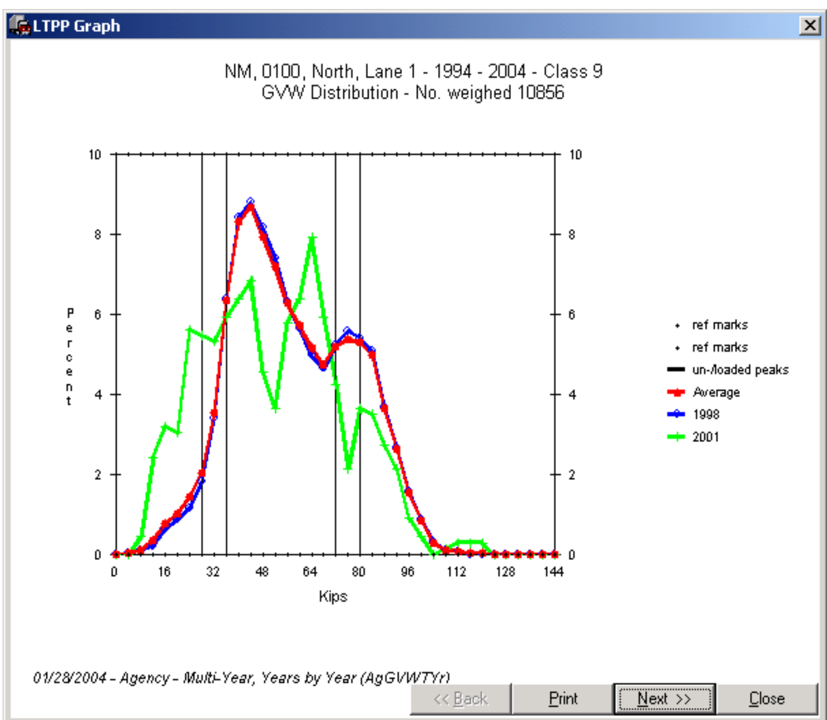


Figure 14-8 Class 9 GVW Distribution - 1998 and 2001 for 350100

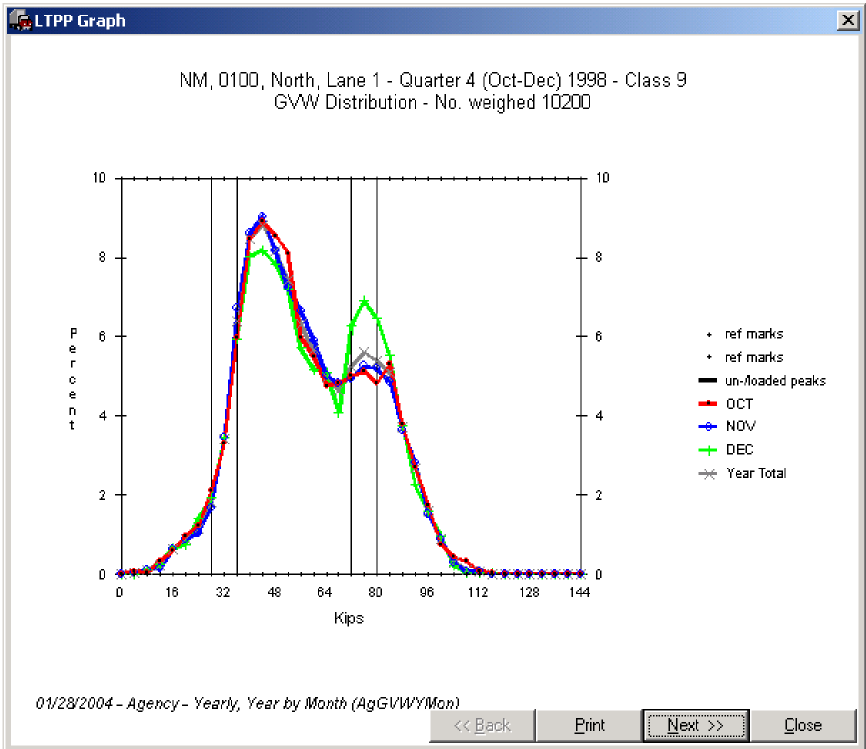


Figure 14-9 Class 9 GVW Distribution - Oct 1998 to Dec 1998 for 350100

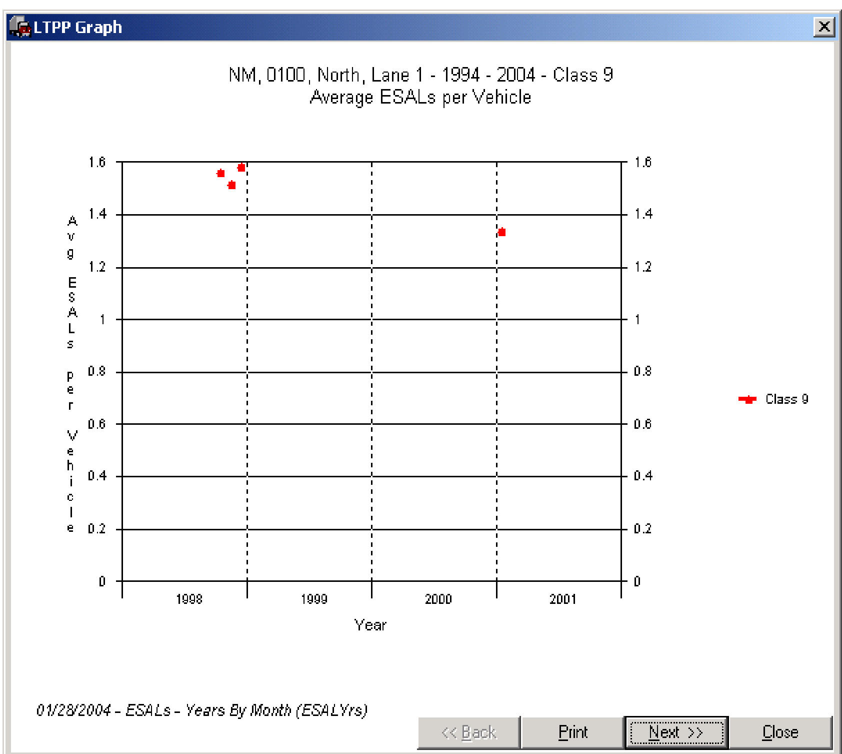


Figure 14-10 Average Class 9 ESALs for 1998 and 2001 for 350100

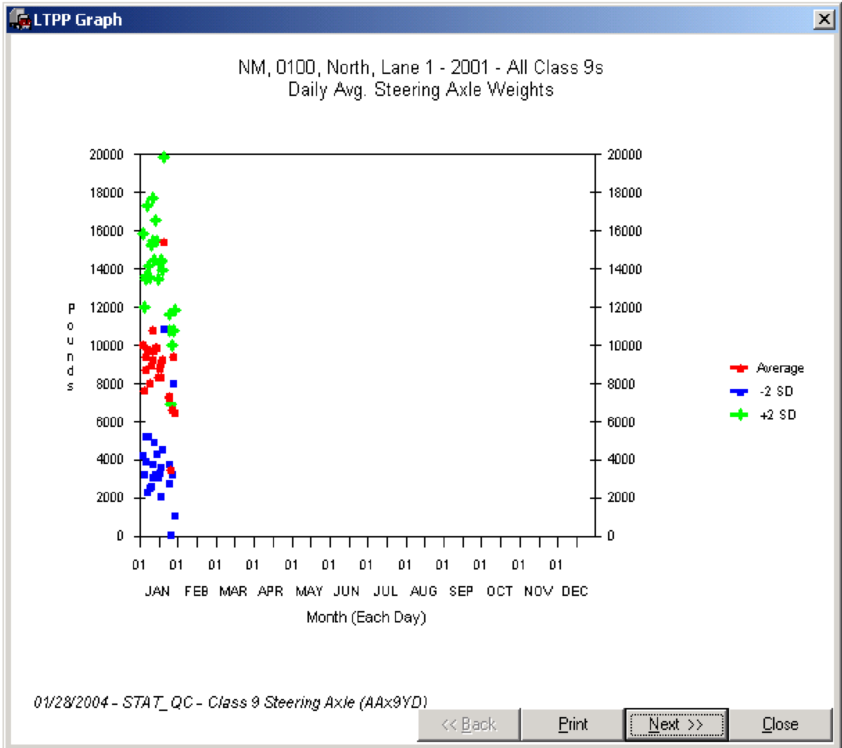


Figure 14-11 Average Daily Class 9 Steering Axle Weight - 2001 for 350100

POST VISIT HANDOUT GUIDE FOR SPS WIM FIELD ASSESSMENT

STATE: New Mexico

SHRP ID: 0100

Figures

1. General Information

SITE ID: *350100*

LOCATION: *Interstate 25 North at M.P. 36.245*

VISIT DATE: *February 19, 2004*

VISIT TYPE: *Assessment*

2. Contact Information

POINTS OF CONTACT:

Assessment Team: *Dean J. Wolf, 301-210-5105, djwolf@mactec.com*

Highway Agency: *Alvaro Vigil, 505-827-5665, alvaro.vigil@nmshtd.state.nm.us*

FHWA COTR: *Debbie Walker, 202-493-3068, deborah.walker@fhwa.dot.gov*

FHWA Division Office Liaison: *Steven Von Stein, 505-820-2028, steven.von.stein@fhwa.dot.gov*

LTPP SPS WIM WEB PAGE: *http://www.tfhrc.gov/pavement/ltpp/spstraffic/index.htm*

3. Agenda

BRIEFING DATE: *February 17th, 2004 at 9.00 a.m. at District 1 Headquarters, 2912 E. Pine Street, Deming, NM 88031-0231,Ph No: 505-544-6530* *****Please note that this is the only briefing which was held.***

ON SITE PERIOD: *February 19th, 2004 beginning at 8:00 a.m.*

TRUCK ROUTE CHECK: *Completed. See Truck Route*

4. Site Location/ Directions

NEAREST AIRPORT: *El Paso International Airport, El Paso, Texas*

DIRECTIONS TO THE SITE: *0.8 mi. north of Rincon Interchange on Interstate 25.*

MEETING LOCATION: *On site beginning at 8:00 a.m.*

WIM SITE LOCATION: *Interstate 25 North at M.P. 36.245 (Latitude: 32^0 40.642' and Longitude: -107^0 4.030')*

WIM SITE LOCATION MAP:*See Figure 4.1*

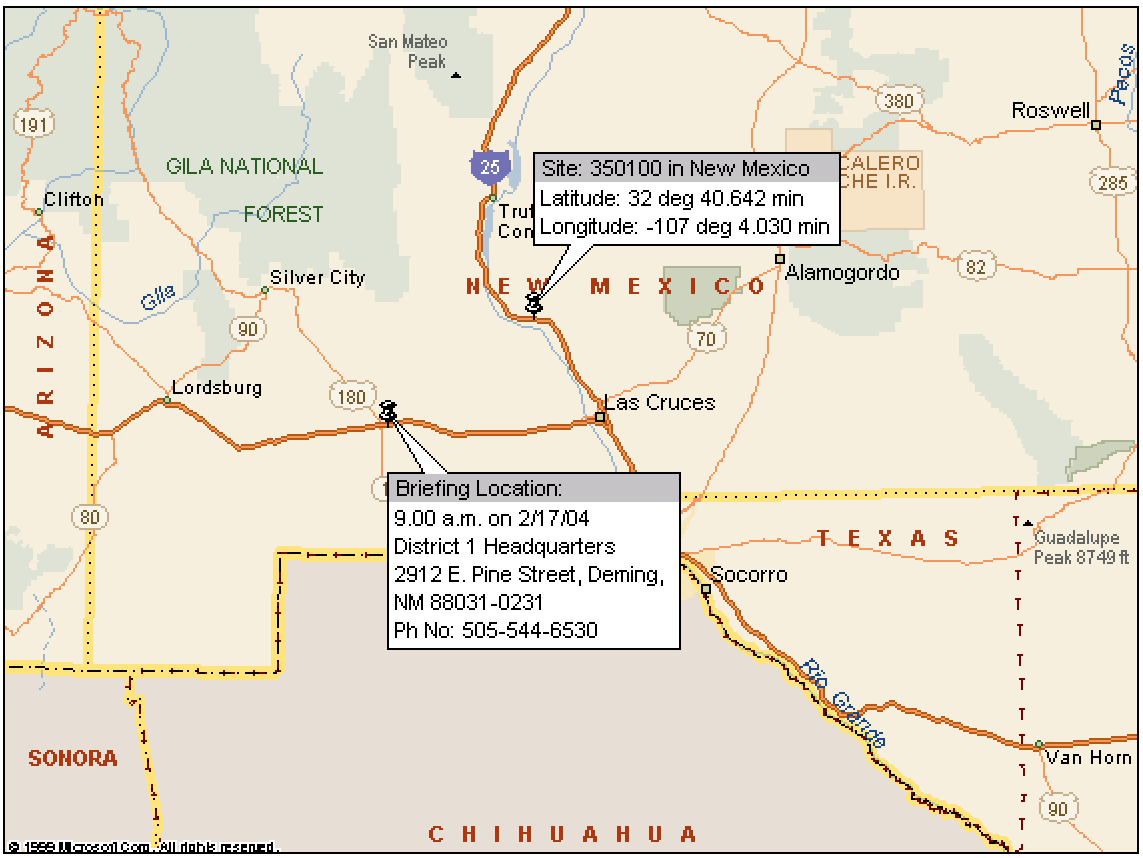


Figure 4.1: Site 350100 in New Mexico and Briefing Location

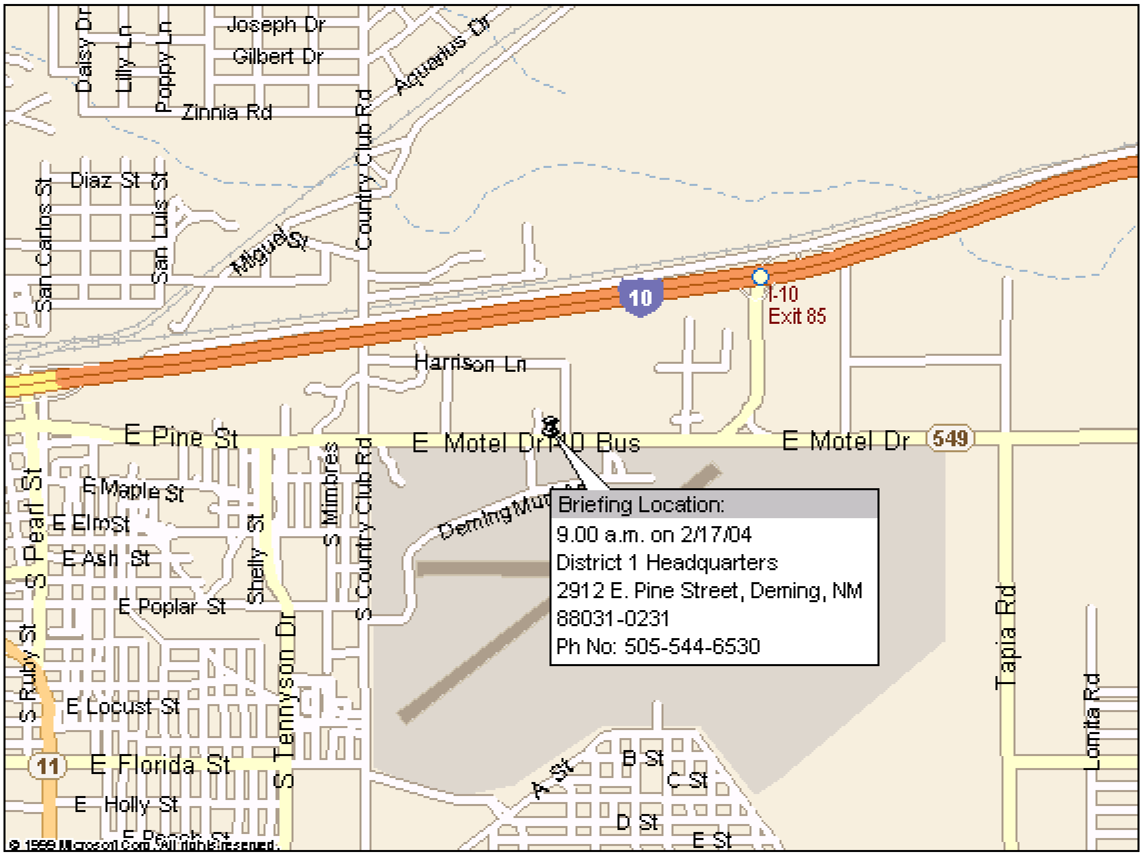


Figure 4.2: Briefing Location of 350100 in New Mexico

5. Truck Route Information

ROUTE RESTRICTIONS: *None*

SCALE LOCATION: *TA Las Cruces, I-10, exit 139, 505-527-7400, Operator – Jeff Wilcox, Latitude: 32.30044, Longitude: -106.81306, open 24/7, $5.00/run.*

TRUCK ROUTE:

- *Northbound to Exit 41 Interchange (4.97 miles). West 0.2 miles, turnaround on right out of turnaround, East 200 feet to I-25 ramp.*
- *Southbound to Exit 32 Interchange (3.17 miles)*
- *Total Truck Turnaround 8.14 miles*

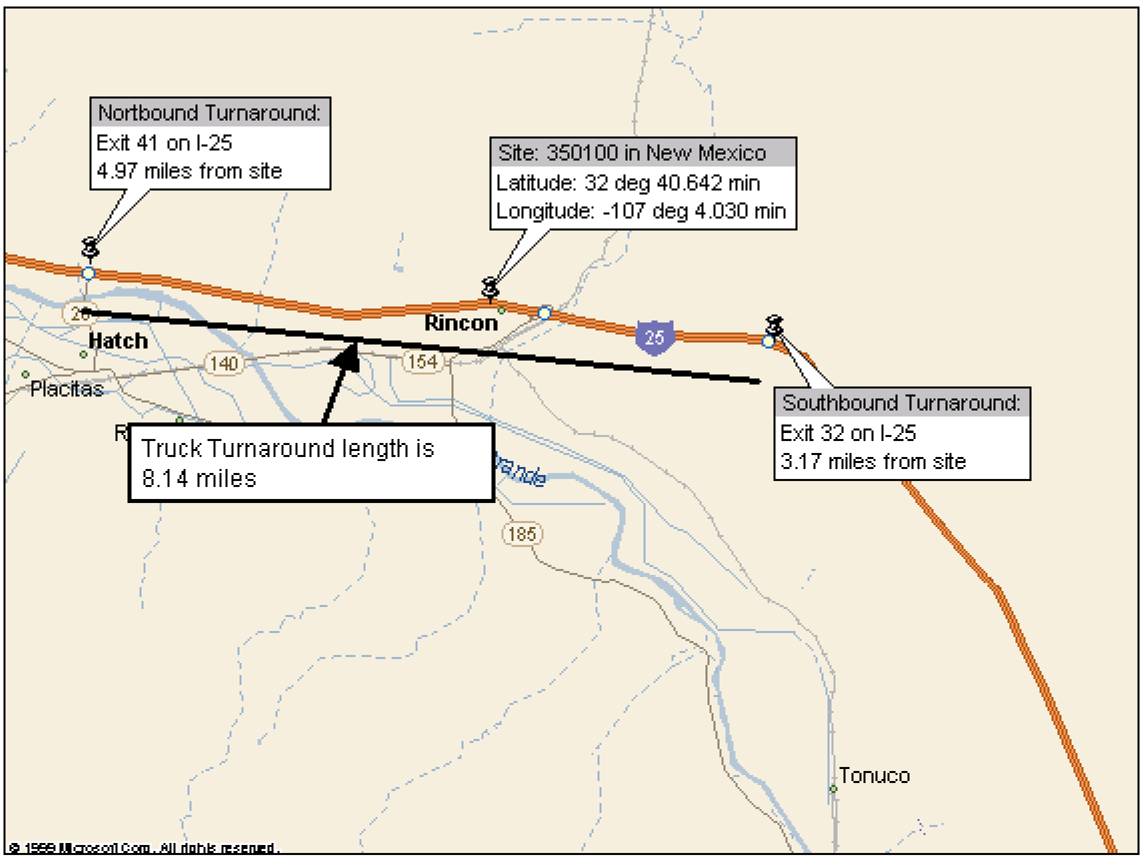


Figure 5.1: Truck Route of 350100 in New Mexico

6. Sheet 17 – New Mexico (350100)

1.* ROUTE ___I-25_______MILEPOST ___36.245_LTPP DIRECTION - N S E W

2.* WIM SITE DESCRIPTION - Grade ___~ 4_____ % Sag vertical Y / N
Nearest SPS section upstream of the site __350101_ ___ ___ ___
Distance from sensor to nearest upstream SPS Section _1__ _0__ _0__ _3__ ft

3.* LANE CONFIGURATION
Lanes in LTPP direction __2__ Lane width _1_ _2_ ft

Median -
1 – painted
2 – physical barrier
3 – grass
4 – none

Shoulder -
1 – curb and gutter
2 – paved AC
3 – paved PCC
4 – unpaved
5 – none

Shoulder width _1__ _5__ ft

4.* PAVEMENT TYPE ______Asphalt Concrete__________________

5.* PAVEMENT SURFACE CONDITION – Distress Survey
Date ______2-18-04________________Distress Photo Filename __
Downstream_TO_4_35_21A_0100_02_18_04.JPG _______________
Date ______2-19-04________________Distress Photo Filename __
Upstream_TO_4_35_21A_0100_02_19_04.JPG _______________
Date ______________________Distress Photo Filename _________________

6. * SENSOR SEQUENCE _______________Piezo – Loop – Piezo ____________

7. * REPLACEMENT AND/OR GRINDING __ __ __ / __ __ / __ __ __ __
REPLACEMENT AND/OR GRINDING __ __ __ / __ __ / __ __ __ __
REPLACEMENT AND/OR GRINDING __ __ __ / __ __ / __ __ __ __

8. RAMPS OR INTERSECTIONS
Intersection/driveway within 300 m upstream of sensor location Y / N
distance __________
Intersection/driveway within 300 m downstream of sensor location Y / N
distance __________
Is shoulder routinely used for turns or passing? Y / N

9. DRAINAGE (*Bending plate and load cell systems only)*
1 – Open to ground
2 – Pipe to culvert
3 – None

Clearance under plate ___ ___ . ___ in
Clearance/access to flush fines from under system Y / N

10. * CABINET LOCATION

Same side of road as LTPP lane Y / N   Median Y/ N   Behind barrier Y / N

Distance from edge of traveled lane _5_ _4_ ft

Distance from system __ __ __ ft

TYPE _____M_____________________

CABINET ACCESS controlled by LTPP / STATE / JOINT?

Contact - name and phone number ___ Dar Reed (505) 827-5669 __

Alternate - name and phone number __ Billy Larranaga (505) 827-5380__

11. * POWER

Distance to cabinet from drop ___ __1_ ___ ft Overhead / underground / solar / AC in cabinet?

Service provider ______________________   Phone number _____________

12. * TELEPHONE

Distance to cabinet from drop ___ __1_ ___ ft Overhead / under ground / cell?

Service provider ______________________   Phone Number _______________

13.* SYSTEM (software & version no.)- ___Mikros Raktel – 8000 Version 9.7 _____

Computer connection – RS232 / Parallel port / USB / Other _________________

14. * TEST TRUCK TURNAROUND time __25_____ minutes DISTANCE _17.4_ mi.

15. PHOTOS   FILENAME

Power source   _ Solar_Panel_TO_4_35_21A_0100_02_18_04.JPG___

Phone source   _ Telephone_Box_TO_4_35_21A_0100_02_18_04.JPG___

Cabinet exterior   _ Cabinet_Exterior_TO_4_35_21A_0100_02_18_04.JPG___

Cabinet interior   _ Cabinet_Interior_TO_4_35_21A_0100_02_18_04.JPG___

Weight sensors   __Leading_Sensor_TO_4_35_21A_0100_02_18_04.JPG___

Classification sensors   __Trailing_Sensor_TO_4_35_21A_0100_02_18_04.JPG____

Other sensors   ________________________

Description _______________________________

Downstream direction at sensors on LTPP lane _

Downstream_TO_4_35_21A_0100_02_18_04.JPG___________________

Upstream direction at sensors on LTPP lane _

Upstream_TO_4_35_21A_0100_02_19_04.JPG___________________

COMMENTS

GPS Coordinates: Latitude: 32^0 40.642’ and Longitude: 107^0 4.030’

Closest Amenities 32 miles south of site in Las Cruces

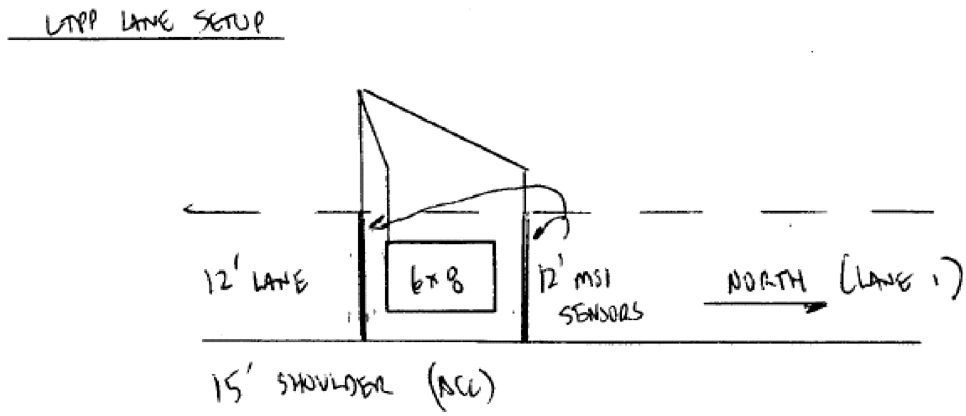
Various Hotels, Restaurants, Gas Stations, Lowe’s, Wal-Mart

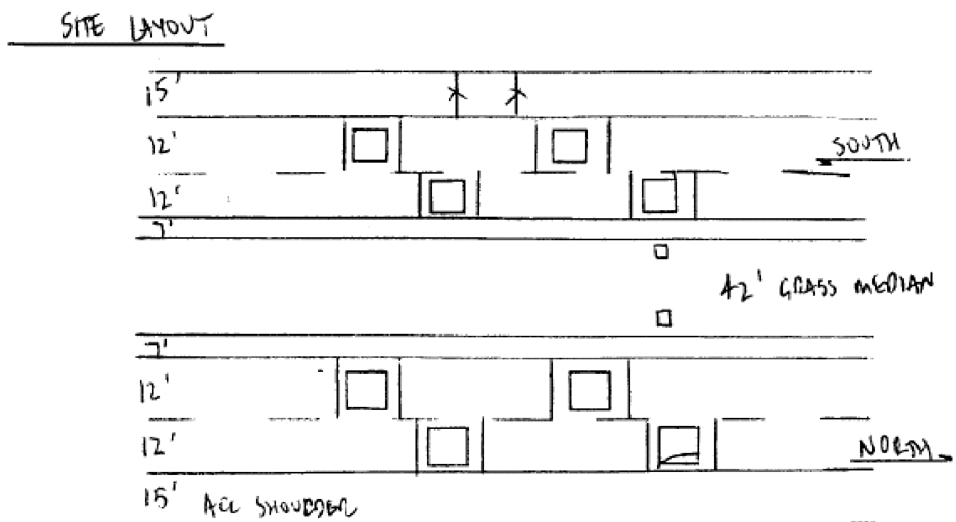
No SPS Test Section Upstream

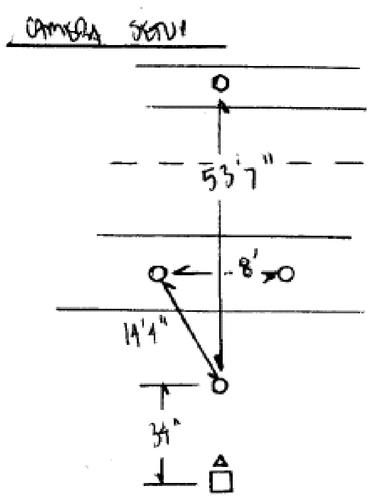
COMPLETED BY Dean J. Wolf

PHONE 301-210-5105 DATE COMPLETED 0 2 / 1 9 / 2 0 0 4

Sketch of equipment layout







Site Map

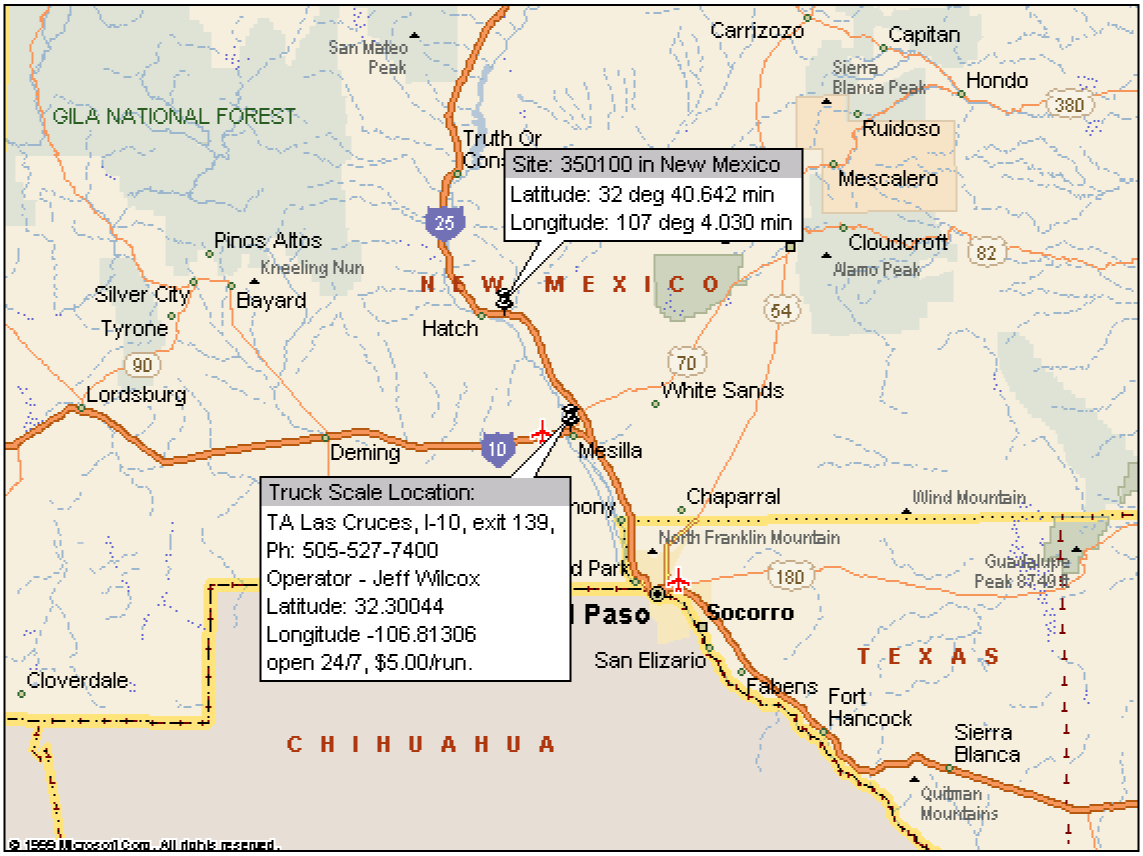
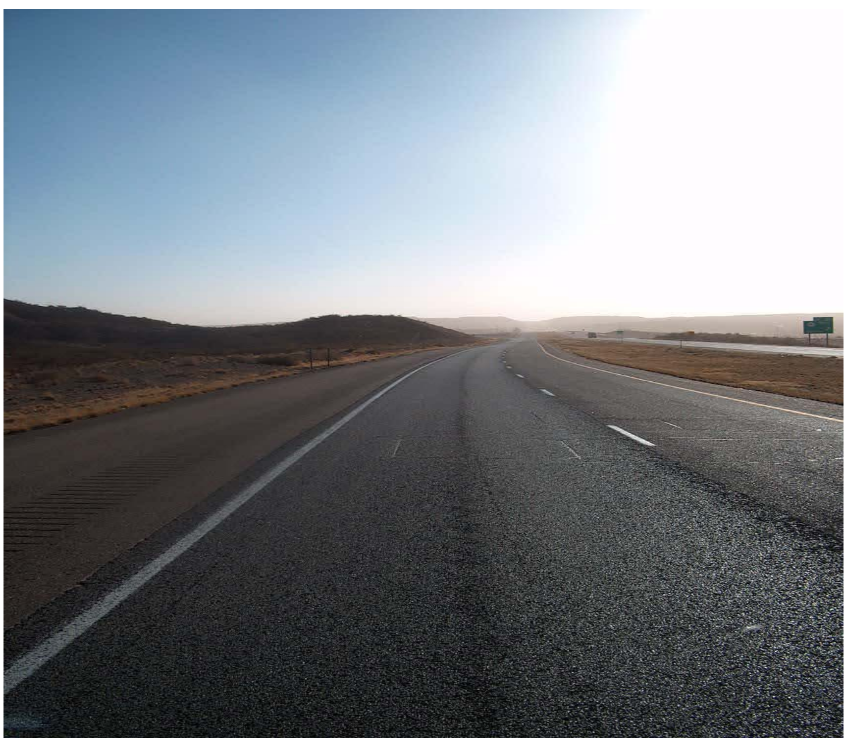


Figure 6.1: Site Map at 350100 in New Mexico

Downstream_TO_4_35_21A_0100_02_18_04.JPG (Distress Photo 1)



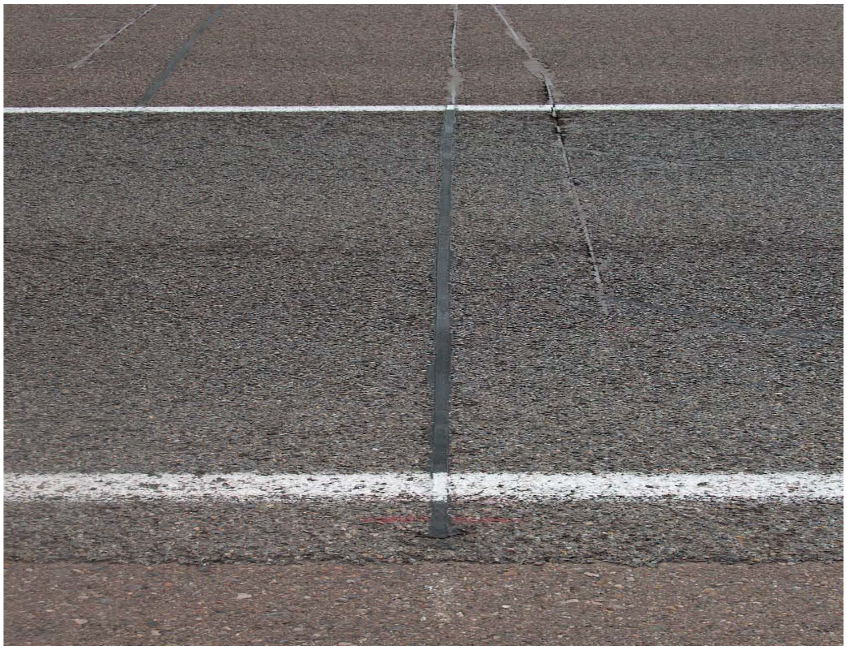
Upstream_TO_4_35_21A_0100_02_19_04.JPG (Distress Photo 2)

Solar_Panel_TO_4_35_21A_0100_02_18_04.JPG

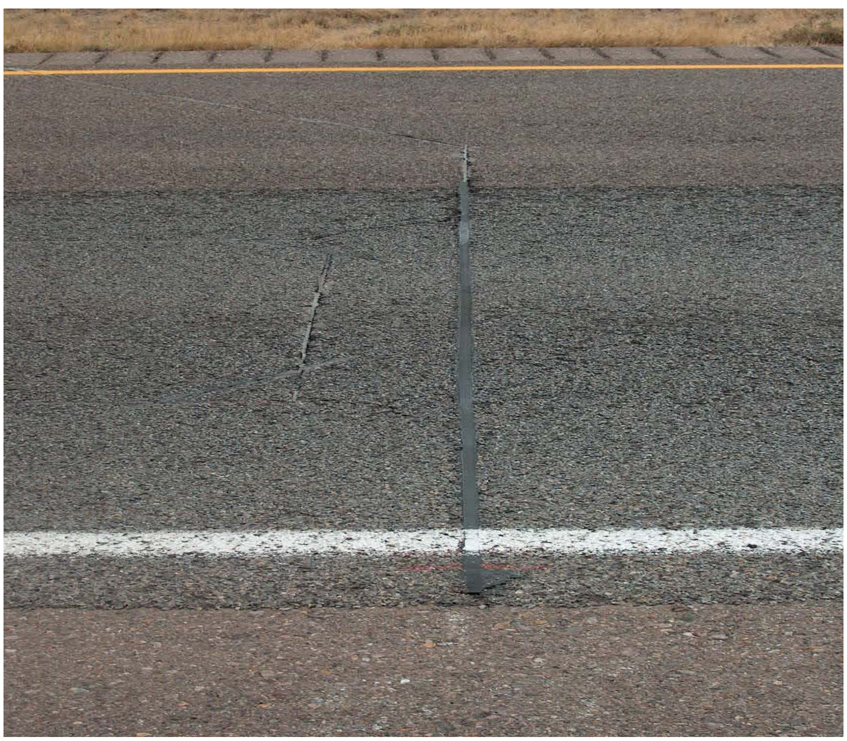
Telephone_Box_TO_4_35_21A_0100_02_18_04.JPG

Cabinet_Exterior_TO_4_35_21A_0100_02_18_04.JPG

Cabinet_Interior_TO_4_35_21A_0100_02_18_04.JPG

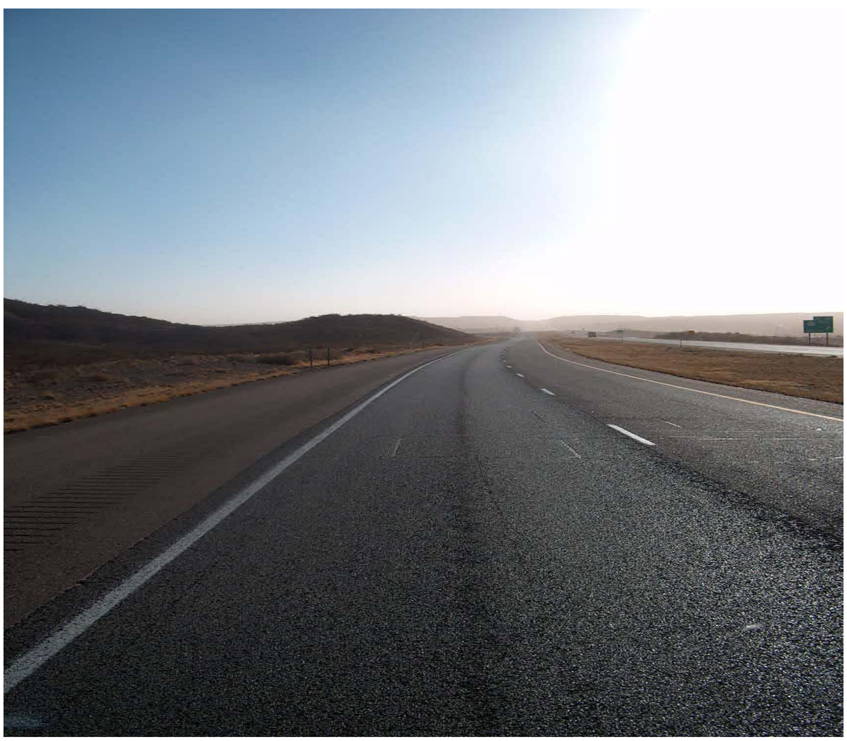


Leading_Sensor_TO_4_35_21A_0100_02_18_04.JPG



Trailing_Sensor_TO_4_35_21A_0100_02_18_04.JPG

Downstream_TO_4_35_21A_0100_02_18_04.JPG



Upstream_TO_4_35_21A_0100_02_19_04.JPG

STATE_CODE 3 _5_

WIM SITE COORDINATION

SPS Project_ID _0_1 _0_ 0_

1. Equipment –
   - Maintenance – contract with purchase / separate contract LTPP / separate contract State / state personnel
     Contact: Alvaro Vigil 505-827-5665
   - Purchase by LTPP / State
     Constraints on specifications (sensor, electronics, warranties, maintenance, installation)
   - Installation – Included with purchase / separate contract by State / state personnel / LTPP contract
   - Calibration – Vendor / State / LTPP
   - Manuals and software – State / LTPP
   - Pavement PCC/AC – always new / replacement as needed / grinding and maintenance as needed / maintenance only / no remediation
   - Power - overhead / underground / solar billed to State / LTPP / N/A
   - Communication - Landline / Cellular / Other billed to State / LTPP / N/A
2. Site visits – Evaluation
   - WIM Validation Check - advance notice required _14_ days / weeks
   - Trucks – air suspension 3S2 State / LTPP
     2nd common State / LTPP
     3rd common State / LTPP
     4th common State / LTPP
     Loads State / LTPP
     Contact ______________________________________

     Drivers State / LTPP
     Contact ______________________________________

     Contractors with prior successful experience in WIM calibration in state:
     _DTS____
     Nearest static scale (commercial or enforcement)
     _Pilot Travel Center, Lordsburg, NM_____________
   - Profiling– short wave -- permanent / temporary site marking
     long wave – permanent / temporary site marking

WIM SITE COORDINATION SPS Project_ID _0_1 _0_ 0_

- Pre-visit data
  – Classification and speed: Contact Alvaro Vigil 505-827-5665
  --Typical operating conditions (congestion, high truck volumes)
  Contact Alvaro Vigil 505-827-5665
  -- Equipment operational status: Contact Alvaro Vigil 505-827-5665

- Access to cabinet
  State only / Joint / LTPP Key / Combination - Both

- State personnel required on site Y / N

Contact information Alvaro Vigil 505-827-5665
Enforcement Coordination required Y / N
Contact information ____

- Traffic Control Required Y/ N

Contact information ____

- Maximum number of personnel on site 10;
  Invitees ___________________________

- Authorization to calibrate site -- State only / LTPP

- Special conditions ____

3. Data Processing
   - Down load State only / LTPP read only / LTPP download / LTPP download and copy to state
   - Data Review State per LTPP guidelines / State weekly / LTPP
   - Data submission for QC State - weekly; twice a month; monthly / LTPP

4. Site visits – Validation
   - WIM Validation Check - advance notice required _14_ days / weeks
     LTPP Semi-annually / Sate per LTPP protocol semi-annually / State other
   - Trucks – air suspension 3S2 State / LTPP
     2nd common State / LTPP
     3rd common State / LTPP
     4th common State / LTPP
     Loads State / LTPP
     Contact ____

     Drivers State / LTPP
     Contact ____

Contractors with prior successful experience in WIM calibration in state:
___DTS____

- Profiling – short wave -- permanent / temporary site marking
  -- long wave – permanent / temporary site marking

- Pre-visit data
  – Classification and speed: Contact Alvaro Vigil 505-827-5665
  -- Equipment operational status: Contact Alvaro Vigil 505-827-5665

- Access to cabinet
  State only / Joint / LTPP   Key / Combination - Both

- State personnel required on site Y / N
Contact information Alvaro Vigil 505-827-5665

- Enforcement Coordination required Y / N
Contact information ____

- Traffic Control Required Y/ N
Contact information ____

- Authorization to calibrate site -- State only / LTPP

- Special conditions ____

5. Site visit – Construction

- Construction schedule and verification – Contact __________________________

- Notice for straightedge and grinding check - ______ days / weeks
On site lead to direct / accept grinding – State / LTPP

- WIM Calibration - advance notice required _____ days / weeks
  Number of lanes -- ______
  LTPP / State per LTPP protocol / State Other _________________

- Trucks – air suspension 3S2 State / LTPP
  2nd common State / LTPP
  Loads State / LTPP
  Drivers State / LTPP

Contractors with prior successful experience in WIM calibration in state:
____

- Profiling – straight edge -- permanent / temporary site marking
  -- long wave – permanent / temporary site marking

- Pre-visit data
  – Classification and speed: Contact ________________________________
  -- Equipment operational status: Contact ___________________________

- Access to cabinet
  State only / Joint / LTPP Key / Combination

- State personnel required on site Y / N
Contact information ____

- Enforcement Coordination required Y / N
Contact information ____

- Traffic Control Required Y/ N
Contact information ____

- Authorization to calibrate site -- State only / LTPP

- Special conditions ____

6. Special conditions
   - Funds and accountability
   - Reports
   - Other