WIM System Field Calibration and Validation Handout Guide

New Mexico, SPS-5 and SPS-1
SHRP ID – 350500/350100

Validation Dates: July 31/August 2

Table of Contents

1 Site Information

Site ID:	350100	**State:**	New Mexico
LTPP Region:	Southern	**Configuration:**	loop-quartz-quartz-loop
Controller Type:	iSINC	**Sensor Type:**	Quartz Piezo
Power:	Solar	**Communication:**	Cellular
Class Scheme:	LTPP Mar 06	**CPU type/setup:**	

Site ID:	350500	**State:**	New Mexico
LTPP Region:	Southern	**Configuration:**	loop-quartz-quartz-loop
Controller Type:	iSINC	**Sensor Type:**	Quartz Piezo
Power:	AC	**Communication:**	landline
Class Scheme:	LTPP Mar 06	**CPU type/setup:**	

2 Contact Information

Agency	Contact	Position	Phone	E-mail
FHWA	Debbie Walker	COTR	202-493-3068	deborah.walker@dot.gov
FHWA	Steve Von Stein	Division Office	505-820-2028	steve.von.stein@fhwa.dot.gov
RSC	Tim Martin	Project Manager	512-977-1837	tmartin@fugro.com
NMDOT	Parveez Anwar	LTPP Coordinator	505-827-5656	parveez.anwar@state.nm.us
NMDOT	Antonio Abeyta	Data Mgmt Chief	505-827-5543	antonio.abeyta@state.nm.us
NMDOT	Josh McClanahan	Traffic Contact	505-827-5137	josh.mclanahan@state.nm.us
ARA	Dean Wolf	Task Leader	717-512-6638	dwolf@ara.com
ARA	Olga Selezneva	Project Manager	410-540-9949	oselezneva@ara.com
	Scott Sunderland	Truck Vendor	480-641-3500	

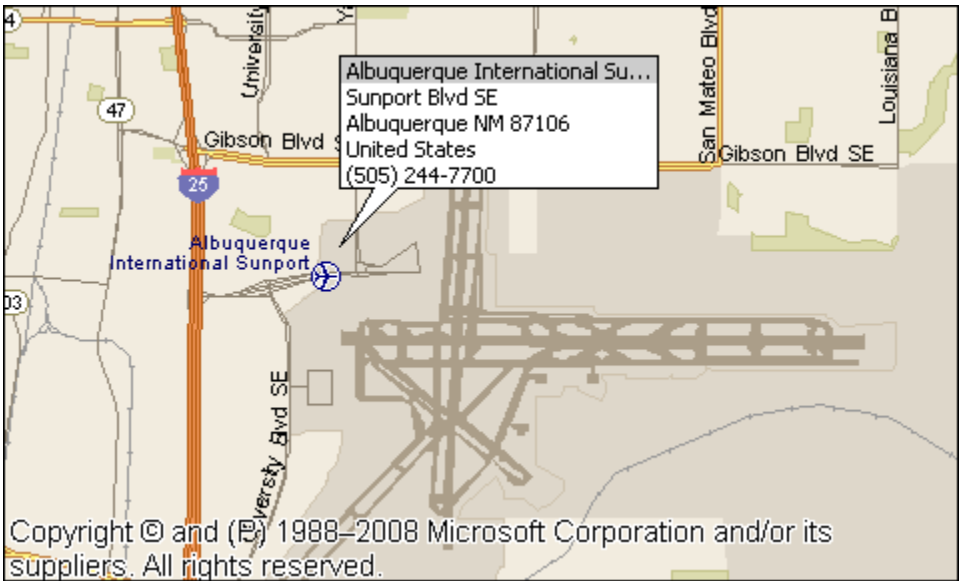
3 Schedule of Events

Date	Event	Location	Start Time
7/30/12	Travel	Albuquerque, NM	TBD
7/30/12	Equipment Assessment	SPS-5 WIM Site	TBD
7/31/12	Test Truck Weigh/Measure/Inspection	Pilot, Lordsburg, NM	6:00 am
7/31/12	Initial Performance Evaluation	SPS-5 WIM Site	7:30 am
7/31/12	System Test/Class and Speed Study	SPS-5 WIM Site	TBD
8/1/12	Test Truck Weigh	Pilot, Lordsburg, NM	6:00 am
8/1/12	Calibration/Validation	SPS-5 WIM Site	7:30 am
8/2/12	Test Truck Weigh	TA, Las Cruces, NM	6:00 am
8/2/12	Equipment Assessment	SPS-1 WIM Site	7:00 am
8/2/12	Initial Performance Evaluation	SPS-1 WIM Site	7:30 am
8/2/12	System Test/Class and Speed Study	SPS-1 WIM Site	TBD
8/3/12	Test Truck Weigh	TA, Las Cruces, NM	6:00 am
8/3/12	Calibration/Validation	SPS-1 WIM Site	7:00 am
8/4/12	Travel	Camp Hill, PA	TBD

4 Maps

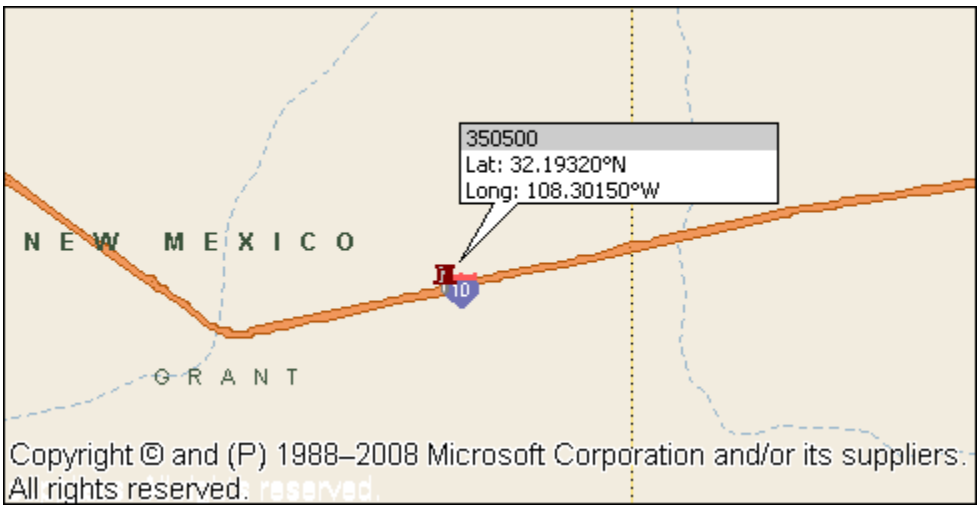
4.1 Airport Location

Name:	Albuquerque International Airport	**Location:**	Albuquerque, NM
Latitude:	35.04947°	**Longitude:**	-106.62521°



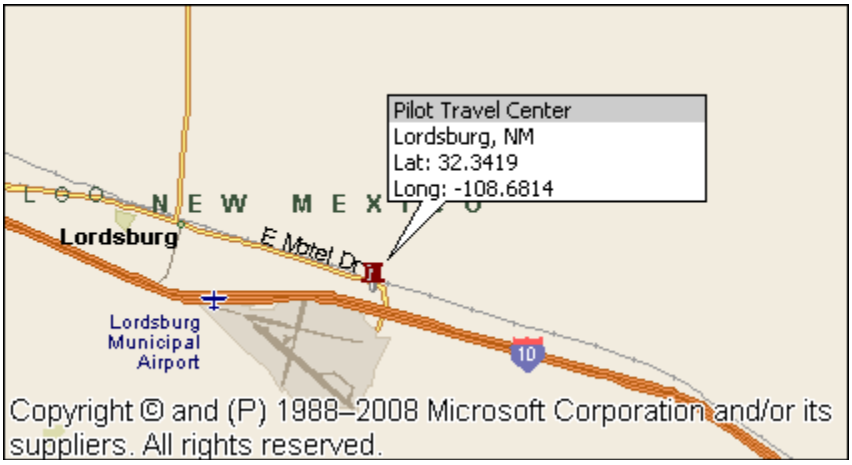
4.2 Site Location – SPS-5

Location:	I-10 East at M.P. 50.2		**Direction:**	EB
Latitude:	32.1932°	**Longitude:**	-108.3010°	



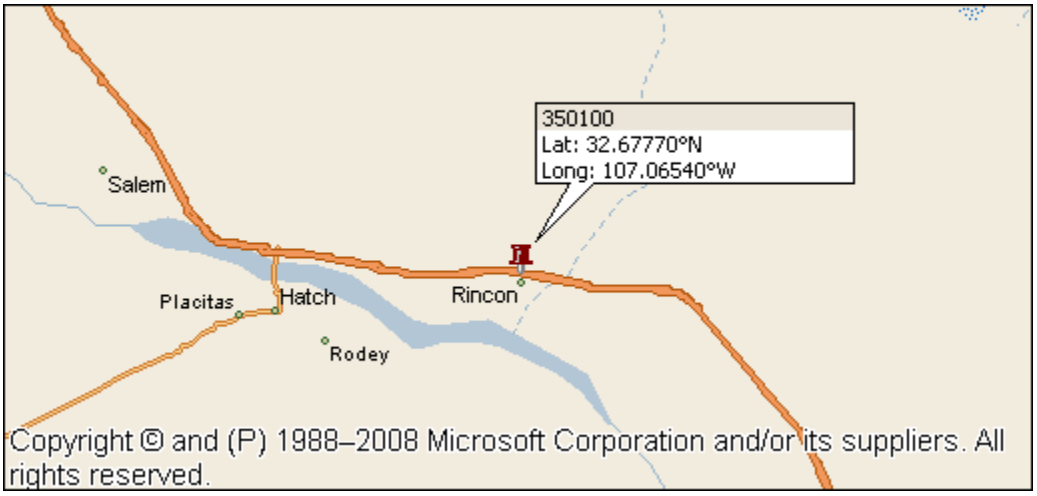
4.3 Truck Scale Location – SPS-5

Name:	Pilot Travel Center, Lordsburg	**Location:**	I-10 & Exit 24
Latitude:	32.3419°	**Longitude:**	-108.6814°



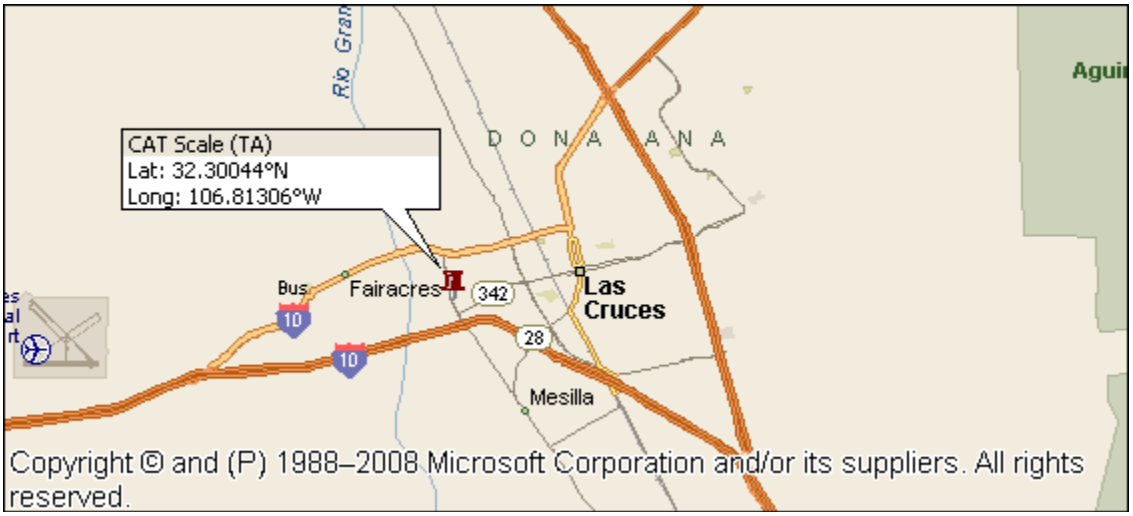
4.4 Site Location – SPS-1

Location:	I-25 North at M.P. 36.1		**Direction:**	NB
Latitude:	32.67770°	**Longitude:**	-107.06540°	



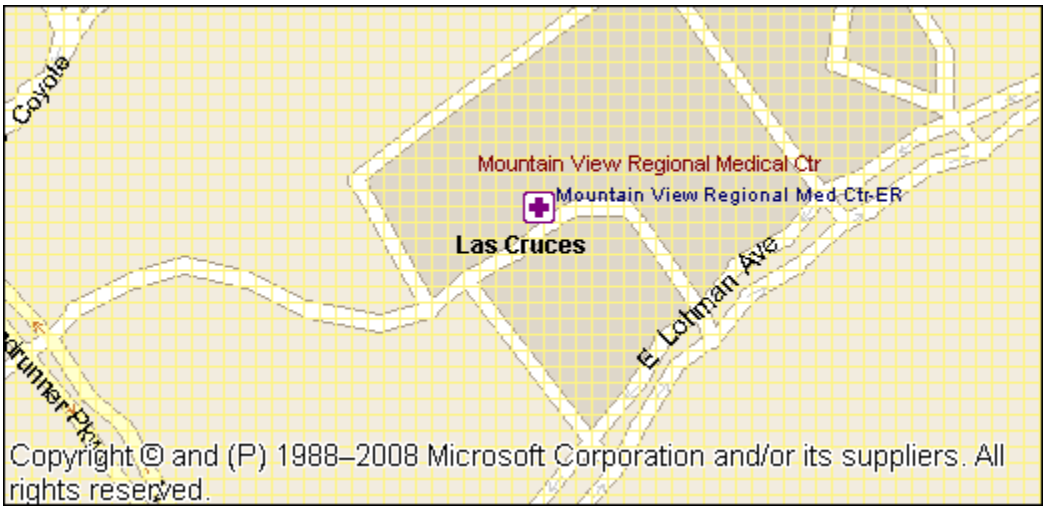
4.5 Truck Scale Location – SPS-1

Name:	TA, Las Cruces	**Location:**	I-10 & Exit 139
Latitude:	32.30044°	**Longitude:**	-106.81306°



4.6 Hospital Location

Name:	Mountain View Regional Medical Center - ER		
Phone:	575- 556-7600	**Location:**	4311 E. Lohman Ave., Las Cruces, NM



5 Occupational Health and Safety Plan

All fieldwork in the right-of-way will be carried out when the ground visibility is more than 3 km, and when there is no accumulation of water, snow, or ice is on the pavement.

To the extent possible, inspection work during extremely high and low temperatures will be avoided. If the work becomes necessary, workers will be reminded to make appropriate precautions (wear protective clothing, drink fluids, and avoid prolonged exposure to severe weather conditions).

All personnel present on the right-of-way will wear approved safety gear (boots, reflective safety vest, and helmet).

The following items will be available at the site: a standard first-aid kit, a cell phone, and the location of nearby hospital(s).

6 Contingency Plan

If inclement weather is forecasted prior to mobilizing to the site, the Project Manager will make the final decision to postpone the Validation visit. The Task Leader is responsible for contacting all parties involved to inform them of the postponement. He is also responsible for rearranging travel.

Once the Validation team is on-site, the On-Site Task Leader is responsible for making decisions to delay or postpone the Validation. He will contact the Project Manager to make recommendations for completing the Validation, and the Project Manager will make the final decision to cancel or postpone. The On-Site Task Leader is responsible for contacting the COTR and all other participating parties to inform them of the delay or postponement.

Traffic Sheet 17 LTPP MONITORED TRAFFIC DATA WIM SITE INVENTORY	STATE CODE: 35 SPS WIM ID: 350100 DATE (mm/dd/yyyy) 8/1/2012

1. ROUTE: I-25 **MILEPOST:** 36.1 **LTPP DIRECTION:** north

2. WIM SITE DESCRIPTION

Grade: 1 to 2% Sag Vertical: N
Nearest Upstream SPS Section: 350101
Distance from sensors to SPS Section: 850 miles

3. LANE CONFIGURATION

Lanes in LTPP direction: 2 Median: 3 - grass
Lane width: 12' Shoulder: 2 - paved AC
Shoulder width: 13'

4. PAVEMENT TYPE AC

5. PAVEMENT SURFACE CONDITION - Distress Survey

Date: 8/1/12 Photo Filename: 350100_downstream_08_01_12.jpg
Date: 8/1/12 Photo Filename: 350100_trailing_loop_08_01_12.jpg
Date: Photo Filename:

6. SENSOR SEQUENCE

Loop - Quartz - Quartz - Loop

7. REPLACEMENT AND/OR GRINDING

Date:
Date:
Date:

8. RAMPS OR INTERSECTIONS

Intersection within 300' upstream of site: N
Intersection within 300' downstream of site: N
Is shoulder routinely used for turning? N

9. DRAINAGE

Drainage *(bending plate and load cell)* :
Clearance under plate (in.):
Clearance /access to flush fines from under system:

Traffic Sheet 17 LTPP MONITORED TRAFFIC DATA WIM SITE INVENTORY	STATE CODE: 35 SPS WIM ID: 350100 DATE (mm/dd/yyyy) 8/1/2012

10. CABINET LOCATION

Same side of road as LTPP lane: Y
Distance from edge of traveled lane: 50 ft
distance from system: 56 ft
type: M

Cabinet access controlled by: Agency and LTPP
Contact name: Roy Czinku Phone # 306-653-6627
Alternate name: Josh McClenahan Phone # 505-827-5137

11. POWER

Distance to cabinet from drop: ft
Type: Solar
AC in cabinet? N
Service provider: Phone #

12. TELEPHONE

Distance to cabinet from drop: ft
Type: cellular
Service provider: Phone #

13. SYSTEM

Software and version no. iSINC
Computer connection: RS-232

14. TEST TRUCK TURNAROUND TIME

Duration: 16 minutes Distance: 14 miles

15. PHOTOS

	Filename
Power source:	350100_solar_panel_08_01_12.jpg
Phone source:	350100_cellular_modem_08_01_12.jpg
Cabinet exterior:	350100_cabinet_exterior_08_01_12.jpg
Cabinet interior:	350100_cabinet_interior_front_08_01_12.jpg
Weight sensors:	350100_leading_WIM_sensor_08_01_12.jpg
	350100_trailing_WIM_sensor_08_01_12.jpg
Other sensors:	350100_leading_loop_08_01_12.jpg
	350100_trailing_loop_08_01_12.jpg
Downstream from sensors on LTPP lane:	350100_downstream_08_01_12.jpg
Upstream from sensors on LTPP lane:	350100_upstream_08_01_12.jpg

Traffic Sheet 18 LTPP MONITORED TRAFFIC DATA WIM SITE COORDINATION	STATE CODE: 35 SPS WIM ID: 350100 DATE (mm/dd/yyyy) 8/1/2012

1. DATA PROCESSING

a. Download: LTPP download and copy to state

b. Data review: LTPP
If state, how often?

c. Data submission LTPP
If state how often?

2. EQUIPMENT

a. Purchase LTPP

b. Installation Included with purchase

c. Maintenance Contract with purchase
Expiration Date

d. Calibration LTPP

e. Manuals and software control: LTPP

f. Power
i. Type Solar ii. Payment N/A

g. Communication
i. Type Cellular ii. Payment State

3. PAVEMENT

a. Type Asphalt Concrete

b. Allowable Rehabilitation activities Replacement as needed

c. Profile Site Markings Temporary

Traffic Sheet 18 LTPP MONITORED TRAFFIC DATA WIM SITE COORDINATION	STATE CODE: 35 SPS WIM ID: 350100 DATE (mm/dd/yyyy) 8/1/2012

4. Onsite Activities

a. WIM Validation Check advance notice required

____ Days 2 Weeks

b. Notice for straightedge and grinding check

____ Days 2 Weeks

i. On site lead LTPP

ii. Accept grinding LTPP

c. Authorization to calibrate site LTPP

d. Calibration routine LTPP annually
Other: ____

e. Test Vehicle Responsibilities

i. Trucks

1st-	Air suspension 3S2	LTPP
2nd-	Air Suspension 3S2	LTPP
3rd-		
4th-		

ii. Loads LTPP

iii. Drivers LTPP

f. Contractor(s) with prior experience in wim calibration in state:
IRD

g. Access to cabinet Joint

h. State personel required on site No

i. Traffic control required No

J. Enforcement coordination required No

Traffic Sheet 18 LTPP MONITORED TRAFFIC DATA WIM SITE COORDINATION	STATE CODE: 35 SPS WIM ID: 350100 DATE (mm/dd/yyyy) 8/1/2012

5. SITE SPECIFIC CONDITIONS

a. Funds and accountability: _____
b. Reports: _____
c. Other: _____
c. Special Conditions _____

6. CONTACTS

a. Equipment (operational status, access, etc.)
Name Roy Czinku Phone # 306-270-9492
Agency IRD

b. Maintenance (equipment)
Name Roy Czinku Phone # 306-270-9492
Agency IRD

c. Data Processing and pre-visit data
Name Tim Martin Phone # 512-977-1837
Agency Fugro

d. Construction schedule and verification
Name _____ Phone # _____
Agency _____

e. Test Vehicles (trucks, loads, drivers)
Name Scott Sunderland Phone # 480-641-3500
Agency Otto Logistics

f. Traffic control
Name _____ Phone # _____
Agency _____

g. Enforcement coordination
Name _____ Phone # _____
Agency _____

h. Nearest static scale
Name TA Travel Center Location: Las Cruces
Phone: _____

Traffic Sheet 19	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	8/1/2012

CALIBRATION TEST TRUCK - Primary

PART A

1. **FHWA CLASS:** 9 2. **Number of axles:** 5

3. **AXLE WEIGHTS** (lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		13010	12580	Direct
B		16450	16100	Direct
C		16450	16100	Direct
D		16815	16815	Direct
E		16815	16815	Direct
F				

4. **GVW (same units as axles)**
   a. Empty GVW:
   b. Average Pre-Test Loaded weight: 79540
   c. Post Test Loaded Weight: 78410
   d. Difference Post Test - Pre-Tests: -1130

5. **TRUCK DESCRIPTION**
   a. Tractor Cab Style: Conventional Sleeper Cab: Yes
   photo: ☑

   b. Make: Eagle
   c. Model: 9900i

   d. Trailer Load Distribution Description:
   concrete blocks
   photo: ☑

   e. Tractor Tare weight - -
   f. Trailer Tare weight - -
   g. Axle Spacing - (feet and tenths)

A to B 17.5 B to C 4.4 C to D 36.9 D to E 4.1 E to F

   h. Wheelbase - ☐ Measured ☑ Computed 62.9
   i. Kingpin offset from Axle B (units) photo: ☐
   j. Overall Length - ☑ Measured 73.0

Traffic Sheet 19	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	8/1/2012

CALIBRATION TEST TRUCK - Primary

6. SUSPENSION

	a. Tire size	b.Suspension description (leaf, air # of leaves, taper or flat leaf, etc.)	c. photo
A	11R22.5	steel spring	☑
B	11R22.5	air	☑
C	11R22.5	air	☑
D		air	☑
E		air	☑
F			☐

d. Cold Tire Pressures (psi)- from right to left

Steering Axle	Axle B	Axle C	AxleD	AxleE	Axle F

PART B

Table 1 - Raw Measurements -Platform Scale

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

Traffic Sheet 19	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	8/1/2012

CALIBRATION TEST TRUCK - Primary

Table 2 - Axle and GVW Computations -Platform Scale Pre-test

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 3- Axle and GVW Computations - Platform Scale - Instance - _____

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 4- Axle and GVW Computations - Platform Scale - Instance - _____

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 5- Axle and GVW Computations - Platform Scale Post-Test

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Traffic Sheet 19	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	8/1/2012

CALIBRATION TEST TRUCK - Primary

Table 6 - Raw Data -Axle Scales - Pre-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	13000	16450	16450	16820	16820		79540
2	13020	16450	16450	16810	16810		79540
Avg.	13010	16450	16450	16815	16815		79540

Table 7- Raw Data- Axle scales -

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
Avg.							

Table 8- Raw Data- Axle scales -

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
Avg.							

Table 9 - Raw Data -Axle Scales - Post-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	12580	16090	16090	16820	16820		78400
2	12580	16110	16110	16810	16810		78420
Avg.	12580	16100	16100	16815	16815		78410

Validation Test Truck Run Set - Pre

Measured By: Dean J. Wolf

Verified By: Dean J. Wolf

Traffic Sheet 19	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	8/1/2012

CALIBRATION TEST TRUCK - Primary

PART A

1. **FHWA CLASS:** 9 2. **Number of axles:** 5

3. **AXLE WEIGHTS** (lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		13010	12580	Direct
B		16450	16100	Direct
C		16450	16100	Direct
D		16815	16815	Direct
E		16815	16815	Direct
F				

4. **GVW (same units as axles)**
   a. Empty GVW:
   b. Average Pre-Test Loaded weight: 79540
   c. Post Test Loaded Weight: 78410
   d. Difference Post Test - Pre-Tests: -1130

5. **TRUCK DESCRIPTION**
   a. Tractor Cab Style: Conventional Sleeper Cab: Yes
   photo: ☑

   b. Make: Eagle
   c. Model: 9900i

   d. Trailer Load Distribution Description:
   concrete blocks
   photo: ☑

   e. Tractor Tare weight - -
   f. Trailer Tare weight - -
   g. Axle Spacing - (feet and tenths)

A to B 17.5 B to C 4.4 C to D 36.9 D to E 4.1 E to F

   h. Wheelbase - ☐ Measured ☑ Computed 62.9
   i. Kingpin offset from Axle B (units) photo: ☐
   j. Overall Length - ☑ Measured 73.0

Traffic Sheet 19	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	8/1/2012

CALIBRATION TEST TRUCK - Primary

6. SUSPENSION

	a. Tire size	b.Suspension description (leaf, air # of leaves, taper or flat leaf, etc.)	c. photo
A	11R22.5	steel spring	☑
B	11R22.5	air	☑
C	11R22.5	air	☑
D		air	☑
E		air	☑
F			☐

d. Cold Tire Pressures (psi)- from right to left

Steering Axle	Axle B	Axle C	AxleD	AxleE	Axle F

PART B

Table 1 - Raw Measurements -Platform Scale

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

Traffic Sheet 19	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	8/1/2012

CALIBRATION TEST TRUCK - Primary

Table 2 - Axle and GVW Computations -Platform Scale Pre-test

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 3- Axle and GVW Computations - Platform Scale - Instance - _____

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 4- Axle and GVW Computations - Platform Scale - Instance - _____

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 5- Axle and GVW Computations - Platform Scale Post-Test

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Traffic Sheet 19	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	8/1/2012

CALIBRATION TEST TRUCK - Primary

Table 6 - Raw Data -Axle Scales - Pre-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	13000	16450	16450	16820	16820		79540
2	13020	16450	16450	16810	16810		79540
Avg.	13010	16450	16450	16815	16815		79540

Table 7- Raw Data- Axle scales -

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
Avg.							

Table 8- Raw Data- Axle scales -

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
Avg.							

Table 9 - Raw Data -Axle Scales - Post-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	12580	16090	16090	16820	16820		78400
2	12580	16110	16110	16810	16810		78420
Avg.	12580	16100	16100	16815	16815		78410

Validation Test Truck Run Set - Cal 1

Measured By: Dean J. Wolf

Verified By: Dean J. Wolf

Traffic Sheet 19	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	8/2/2012

CALIBRATION TEST TRUCK - Primary

PART A

1. **FHWA CLASS:** 9 **2. Number of axles:** 5

3. **AXLE WEIGHTS** (lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		13010	12860	Direct
B		16450	16285	Direct
C		16450	16285	Direct
D		16815	16820	Direct
E		16815	16820	Direct
F				

4. **GVW (same units as axles)**
   a. Empty GVW:
   b. Average Pre-Test Loaded weight: 79540
   c. Post Test Loaded Weight: 79070
   d. Difference Post Test - Pre-Tests: -470

5. **TRUCK DESCRIPTION**
   a. Tractor Cab Style: Conventional Sleeper Cab: Yes
   photo: ☑

   b. Make: Eagle
   c. Model: 9900i

   d. Trailer Load Distribution Description:
   concrete blocks
   photo: ☑

   e. Tractor Tare weight - -
   f. Trailer Tare weight - -
   g. Axle Spacing - (feet and tenths)

A to B 17.5 B to C 4.4 C to D 36.9 D to E 4.1 E to F

   h. Wheelbase - ☐ Measured ☑ Computed 62.9
   i. Kingpin offset from Axle B (units) photo: ☐
   j. Overall Length - ☑ Measured 73.0

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CALIBRATION TEST TRUCK - Primary

6. SUSPENSION

	a. Tire size	b.Suspension description (leaf, air # of leaves, taper or flat leaf, etc.)	c. photo
A	11R22.5	steel spring	☑
B	11R22.5	air	☑
C	11R22.5	air	☑
D		air	☑
E		air	☑
F			☐

d. Cold Tire Pressures (psi)- from right to left

Steering Axle	Axle B	Axle C	AxleD	AxleE	Axle F

PART B

Table 1 - Raw Measurements -Platform Scale

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

Traffic Sheet 19	STATE CODE:	35
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CALIBRATION TEST TRUCK - Primary

Table 2 - Axle and GVW Computations -Platform Scale Pre-test

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 3- Axle and GVW Computations - Platform Scale - Instance - _____

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 4- Axle and GVW Computations - Platform Scale - Instance - _____

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 5- Axle and GVW Computations - Platform Scale Post-Test

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

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CALIBRATION TEST TRUCK - Primary

Table 6 - Raw Data -Axle Scales - Pre-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	13000	16450	16450	16820	16820		79540
2	13020	16450	16450	16810	16810		79540
Avg.	13010	16450	16450	16815	16815		79540

Table 7- Raw Data- Axle scales -

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	12580	16090	16090	16820	16820		78400
2	12580	16110	16110	16810	16810		78420
Avg.	12580	16100	16100	16815	16815		78410

Table 8- Raw Data- Axle scales -

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	13040	16390	16390	16810	16810		79440
2	13040	16380	16380	16800	16800		79400
Avg.	13040	16385	16385	16805	16805		79420

Table 9 - Raw Data -Axle Scales - Post-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	12860	16280	16280	16820	16820		79060
2	12860	16290	16290	16820	16820		79080
Avg.	12860	16285	16285	16820	16820		79070

Validation Test Truck Run Set - Post

Measured By: Dean J. Wolf

Verified By: Dean J. Wolf

Traffic Sheet 19	STATE CODE:	35
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CALIBRATION TEST TRUCK # 2	DATE (mm/dd/yyyy)	8/1/2012

CALIBRATION TEST TRUCK - Secondary

PART A

1. **FHWA CLASS:** 9 **2. Number of axles:** 5

3. **AXLE WEIGHTS** (lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		11930	11420	Direct
B		14825	14555	Direct
C		14825	14555	Direct
D		14120	14080	Direct
E		14120	14080	Direct
F				

4. **GVW (same units as axles)**
   - a. Empty GVW:
   - b. Average Pre-Test Loaded weight: 69820
   - c. Post Test Loaded Weight: 68690
   - d. Difference Post Test - Pre-Tests: -1130

5. **TRUCK DESCRIPTION**
   - a. Tractor Cab Style: Conventional Sleeper Cab: Yes
     photo: ☑
   - b. Make: Eagle
   - c. Model: 9400i
   - d. Trailer Load Distribution Description:

     rock

     photo: ☑
   - e. Tractor Tare weight - _____ - _____
   - f. Trailer Tare weight - _____ - _____
   - g. Axle Spacing - (feet and tenths)

A to B 18.8 B to C 4.4 C to D 29.3 D to E 4.1 E to F _____

   - h. Wheelbase - ☐ Measured _____ ☑ Computed 56.6
   - i. Kingpin offset from Axle B (units) _____ photo: ☐
   - j. Overall Length - ☑ Measured 61.0

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 2	STATE CODE: 35 SPS WIM ID: 350100 DATE (mm/dd/yyyy) 8/1/2012

CALIBRATION TEST TRUCK - Secondary

6. SUSPENSION

	a. Tire size	b.Suspension description (leaf, air # of leaves, taper or flat leaf, etc.)	c. photo
A		steel spring	☑
B		air	☑
C		air	☑
D		steel spring	☑
E		steel spring	☑
F			☐

d. Cold Tire Pressures (psi)- from right to left

Steering Axle	Axle B	Axle C	AxleD	AxleE	Axle F

PART B

Table 1 - Raw Measurements -Platform Scale

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

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CALIBRATION TEST TRUCK - Secondary

Table 2 - Axle and GVW Computations -Platform Scale Pre-test

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 3- Axle and GVW Computations - Platform Scale - Instance - _____

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 4- Axle and GVW Computations - Platform Scale - Instance - _____

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 5- Axle and GVW Computations - Platform Scale Post-Test

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

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CALIBRATION TEST TRUCK - Secondary

Table 6 - Raw Data -Axle Scales - Pre-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	11940	14820	14820	14120	14120		69820
2	11920	14830	14830	14120	14120		69820
Avg.	11930	14825	14825	14120	14120		69820

Table 7- Raw Data- Axle scales -

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
Avg.							

Table 8- Raw Data- Axle scales -

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
Avg.							

Table 9 - Raw Data -Axle Scales - Post-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	11400	14560	14560	14080	14080		68680
2	11440	14550	14550	14080	14080		68700
Avg.	11420	14555	14555	14080	14080		68690

Validation Test Truck Run Set - Pre

Measured By: Dean J. Wolf

Verified By: Dean J. Wolf

Traffic Sheet 19	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
CALIBRATION TEST TRUCK # 2	DATE (mm/dd/yyyy)	8/1/2012

CALIBRATION TEST TRUCK - Secondary

PART A

1. **FHWA CLASS:** 9 **2. Number of axles:** 5

3. **AXLE WEIGHTS** (lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		11930	11420	Direct
B		14825	14555	Direct
C		14825	14555	Direct
D		14120	14080	Direct
E		14120	14080	Direct
F				

4. **GVW (same units as axles)**
   - a. Empty GVW:
   - b. Average Pre-Test Loaded weight: 69820
   - c. Post Test Loaded Weight: 68690
   - d. Difference Post Test - Pre-Tests: -1130

5. **TRUCK DESCRIPTION**
   - a. Tractor Cab Style: Conventional Sleeper Cab: Yes
     photo: ☑
   - b. Make: Eagle
   - c. Model: 9400i
   - d. Trailer Load Distribution Description:

     rock

     photo: ☑
   - e. Tractor Tare weight - _____ - _____
   - f. Trailer Tare weight - _____ - _____
   - g. Axle Spacing - (feet and tenths)

A to B 18.8 B to C 4.4 C to D 29.3 D to E 4.1 E to F _____

   - h. Wheelbase - ☐ Measured _____ ☑ Computed 56.6
   - i. Kingpin offset from Axle B (units) _____ photo: ☐
   - j. Overall Length - ☑ Measured 61.0

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 2	STATE CODE: 35 SPS WIM ID: 350100 DATE (mm/dd/yyyy) 8/1/2012

CALIBRATION TEST TRUCK - Secondary

6. SUSPENSION

	a. Tire size	b.Suspension description (leaf, air # of leaves, taper or flat leaf, etc.)	c. photo
A		steel spring	☑
B		air	☑
C		air	☑
D		steel spring	☑
E		steel spring	☑
F			☐

d. Cold Tire Pressures (psi)- from right to left

Steering Axle	Axle B	Axle C	AxleD	AxleE	Axle F

PART B

Table 1 - Raw Measurements -Platform Scale

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

Traffic Sheet 19	STATE CODE:	35
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CALIBRATION TEST TRUCK - Secondary

Table 2 - Axle and GVW Computations -Platform Scale Pre-test

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 3- Axle and GVW Computations - Platform Scale - Instance - _____

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 4- Axle and GVW Computations - Platform Scale - Instance - _____

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 5- Axle and GVW Computations - Platform Scale Post-Test

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

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CALIBRATION TEST TRUCK - Secondary

Table 6 - Raw Data -Axle Scales - Pre-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	11940	14820	14820	14120	14120		69820
2	11920	14830	14830	14120	14120		69820
Avg.	11930	14825	14825	14120	14120		69820

Table 7- Raw Data- Axle scales -

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
Avg.							

Table 8- Raw Data- Axle scales -

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
Avg.							

Table 9 - Raw Data -Axle Scales - Post-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	11400	14560	14560	14080	14080		68680
2	11440	14550	14550	14080	14080		68700
Avg.	11420	14555	14555	14080	14080		68690

Validation Test Truck Run Set - Cal 1

Measured By: Dean J. Wolf

Verified By: Dean J. Wolf

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 2	STATE CODE: 35 SPS WIM ID: 350100 DATE (mm/dd/yyyy) 8/2/2012

CALIBRATION TEST TRUCK - Secondary

PART A

1. **FHWA CLASS:** 9 2. **Number of axles:** 5

3. **AXLE WEIGHTS** (lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		11930	11670	Direct
B		14825	14735	Direct
C		14825	14735	Direct
D		14120	14060	Direct
E		14120	14060	Direct
F				

4. **GVW (same units as axles)**
   - a. Empty GVW:
   - b. Average Pre-Test Loaded weight: 69820
   - c. Post Test Loaded Weight: 69260
   - d. Difference Post Test - Pre-Tests: -560

5. **TRUCK DESCRIPTION**
   - a. Tractor Cab Style: Conventional Sleeper Cab: Yes
     photo: ☑
   - b. Make: Eagle
   - c. Model: 9400i
   - d. Trailer Load Distribution Description:
     rock
     photo: ☑
   - e. Tractor Tare weight - _____ - _____
   - f. Trailer Tare weight - _____ - _____
   - g. Axle Spacing - (feet and tenths)

A to B 18.8 B to C 4.4 C to D 29.3 D to E 4.1 E to F _____

   - h. Wheelbase - ☐ Measured _____ ☑ Computed 56.6
   - i. Kingpin offset from Axle B (units) _____ photo: ☐
   - j. Overall Length - ☑ Measured 61.0

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 2	STATE CODE: 35 SPS WIM ID: 350100 DATE (mm/dd/yyyy) 8/2/2012

CALIBRATION TEST TRUCK - Secondary

6. SUSPENSION

	a. Tire size	b.Suspension description (leaf, air # of leaves, taper or flat leaf, etc.)	c. photo
A		steel spring	☑
B		air	☑
C		air	☑
D		steel spring	☑
E		steel spring	☑
F			☐

d. Cold Tire Pressures (psi)- from right to left

Steering Axle	Axle B	Axle C	AxleD	AxleE	Axle F

PART B

Table 1 - Raw Measurements -Platform Scale

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

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CALIBRATION TEST TRUCK - Secondary

Table 2 - Axle and GVW Computations -Platform Scale Pre-test

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 3- Axle and GVW Computations - Platform Scale - Instance - _____

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 4- Axle and GVW Computations - Platform Scale - Instance - _____

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

Table 5- Axle and GVW Computations - Platform Scale Post-Test

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

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CALIBRATION TEST TRUCK - Secondary

Table 6 - Raw Data -Axle Scales - Pre-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	11940	14820	14820	14120	14120		69820
2	11920	14830	14830	14120	14120		69820
Avg.	11930	14825	14825	14120	14120		69820

Table 7- Raw Data- Axle scales -

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	11400	14560	14560	14080	14080		68680
2	11440	14550	14550	14080	14080		68700
Avg.	11420	14555	14555	14080	14080		68690

Table 8- Raw Data- Axle scales -

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	11920	14780	14780	14070	14070		69620
2	11900	14790	14790	14070	14070		69620
Avg.	11910	14785	14785	14070	14070		69620

Table 9 - Raw Data -Axle Scales - Post-test

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	11640	14750	14750	14060	14060		69260
2	11700	14720	14720	14060	14060		69260
Avg.	11670	14735	14735	14060	14060		69260

Validation Test Truck Run Set - Post

Measured By: Dean J. Wolf

Verified By: Dean J. Wolf

Traffic Sheet 21 (Wheel Load)
LTPP MONITORED TRAFFIC DATA
WIM SYSTEM TRUCK RECORDS

STATE CODE:
SPS WIM ID:
DATE: (mm/dd/yyyy):

Pvmt Temp	Radar speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW	A-B space	B-C space	C-D space
126.6	49	1	1	16:29:16	496	49.0	11.9	16.6	15.5	15.0	14.0		72.8	17.2	4.4	36.5
126.6	48	2	1	16:29:37	497	47.0	10.2	13.5	14.4	12.6	12.6		63.4	18.6	4.3	28.9
124.5	58	1	2	16:54:07	569	58.0	12.3	16.3	15.6	16.6	14.1		74.8	17.2	4.4	36.5
124.5	58	2	2	16:54:49	571	58.0	11.5	13.9	14.0	13.5	12.3		65.2	18.5	4.3	28.9
119.2	66	1	3	17:21:47	644	66.0	11.9	16.6	15.2	16.1	15.9		75.7	17.3	4.4	36.4
119.2	64	2	3	17:22:03	646	64.0	10.7	14.0	14.6	13.6	13.3		66.2	18.6	4.3	29.0
118.4	49	1	4	17:43:40	709	49.0	11.2	16.7	15.8	16.1	15.4		75.2	17.3	4.3	36.6
118.4	47	2	4	17:44:31	714	47.0	11.1	12.8	13.6	13.0	12.5		63.0	18.5	4.3	28.9
77.0	59	1	5	7:18:51	1709	59.0	13.0	16.8	17.7	16.4	17.3		81.1	17.4	4.3	36.6
77.0	60	2	5	7:19:23	1713	59.0	11.5	14.5	14.9	13.8	12.5		67.4	18.6	4.3	29.0
83.5	68	1	6	7:32:40	1752	68.0	12.4	17.3	16.1	18.1	13.8		77.8	17.4	4.4	36.8
83.5	68	2	6	7:32:57	1754	66.0	11.6	13.8	14.6	13.6	13.5		67.2	18.7	4.3	29.0
85.5	49	1	7	7:46:28	1784	49.0	12.3	16.4	16.3	16.2	15.9		77.2	17.4	4.3	36.5
85.5	47	2	7	7:46:46	1785	47.0	10.7	14.1	14.1	13.3	13.3		65.4	18.6	4.3	29.0
89.8	59	1	8	8:00:33	1821	59.0	12.7	18.0	17.2	17.9	17.1		82.9	17.3	4.4	36.6
89.8	60	2	8	8:01:02	1822	60.0	11.6	14.5	14.5	14.3	13.6		68.5	18.6	4.3	29.0
91.1	68	1	9	8:13:57	1863	68.0	12.5	17.3	17.6	16.9	14.8		79.2	17.3	4.3	36.7
91.1	67	2	9	8:14:16	1864	67.0	11.4	14.1	14.0	13.4	13.1		66.1	18.7	4.3	28.9
93.8	49	1	10	8:27:51	1904	49.0	12.2	16.9	16.5	15.7	15.4		76.9	17.3	4.3	36.6
93.8	48	2	10	8:28:10	1906	48.0	11.1	13.7	13.9	13.1	12.9		64.5	18.7	4.3	29.0
95.6	59	1	11	8:41:34	1947	59.0	12.2	17.2	16.4	16.4	15.7		77.9	17.3	4.3	36.4
95.6	59	2	11	8:42:05	1948	59.0	11.6	14.0	15.0	13.9	13.7		68.3	18.7	4.3	29.0
99.2	68	1	12	8:55:04	1982	68.0	12.0	16.8	15.3	16.6	15.5		76.2	17.3	4.3	36.6
99.2	66	2	12	8:55:25	1984	66.0	11.2	14.0	14.8	13.2	12.8		66.0	18.6	4.3	29.0

Recorded By: kt

Verified By: djw

Traffic Sheet 21 (Wheel Load)
LTPP MONITORED TRAFFIC DATA
WIM SYSTEM TRUCK RECORDS

STATE CODE:
SPS WIM ID:
DATE: (mm/dd/yyyy):

Pvmt Temp	Radar speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW	A-B space	B-C space	C-D space
101.6	49	1	13	9:10:16	2024	49.0	11.8	17.2	16.7	16.9	15.2		77.8	17.3	4.3	36.6
101.6	49	2	13	9:10:49	2025	48.0	10.4	13.9	14.5	13.7	12.5		65.0	18.7	4.3	29.1
106.4	60	1	14	9:23:40	2061	59.0	13.2	17.1	16.1	17.5	16.5		80.2	17.4	4.4	36.6
106.4	59	2	14	9:24:12	2062	59.0	11.3	13.5	13.5	13.4	12.8		64.5	18.6	4.3	28.9
109.5	68	1	15	9:37:02	2097	68.0	12.2	16.7	17.2	16.0	15.6		77.8	17.4	4.3	36.5
109.5	66	2	15	9:37:27	2099	66.0	10.8	14.1	14.6	13.7	12.9		66.0	18.6	4.3	28.9
112.6	49	1	16	9:51:01	2137	49.0	11.8	16.5	17.0	15.7	16.4		77.4	17.2	4.3	36.4
112.6	49	2	16	9:51:25	2139	49.0	10.6	12.9	13.3	13.5	11.8		62.0	18.6	4.3	28.9
112.6	59	1	17	10:05:35	2183	59.0	12.1	16.5	16.1	16.6	16.4		77.7	17.4	4.3	36.4
112.6	58	2	17	10:05:50	2185	58.0	11.3	13.9	14.4	13.6	12.2		65.5	18.7	4.3	28.9
113.6	68	1	18	10:19:06	2223	68.0	11.6	16.9	15.6	16.4	13.2		73.8	17.3	4.3	36.4
113.6	66	2	18	10:19:21	2225	66.0	11.1	14.4	14.7	13.2	12.7		65.9	18.7	4.3	29.0
116.5	49	1	19	10:33:15	2268	49.0	11.8	16.7	16.3	16.5	16.2		77.7	17.3	4.3	36.3
116.5	48	2	19	10:33:27	2269	48.0	10.3	13.1	14.2	13.3	12.3		63.2	18.6	4.3	28.9
120.5	59	1	20	10:47:06	2301	59.0	12.7	16.7	16.3	16.0	15.2		77.1	17.3	4.3	36.6
120.5	59	2	20	10:47:19	2302	59.0	11.7	13.9	13.8	14.2	12.9		66.6	18.6	4.3	28.9

Recorded By: kt

Verified By: djw

Traffic Sheet 21 (Wheel Load)
LTPP MONITORED TRAFFIC DATA
WIM SYSTEM TRUCK RECORDS

STATE CODE:
SPS WIM ID:
DATE: (mm/dd/yyyy):

Pvmt Temp	Radar speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW	A-B space	B-C space	C-D space
130.5	49	1	1	12:28:56	59	49.0	12.2	17.0	16.8	16.2	17.7		79.9	17.3	4.3	36.6
130.5	49	2	1	12:29:20	61	49.0	11.5	13.6	14.3	13.1	13.1		65.7	18.6	4.3	29.0
134.4	59	1	2	12:43:20	107	59.0	12.5	17.0	16.9	17.0	15.3		78.7	17.3	4.4	36.5
134.4	60	2	2	12:43:30	108	60.0	10.9	14.6	14.9	13.7	12.8		67.0	18.5	4.3	29.0
133.1	68	1	3	12:56:46	152	68.0	13.0	17.5	16.4	17.0	16.8		80.7	17.3	4.4	36.5
135.5	49	1	4	13:10:57	199	49.0	12.2	17.1	16.6	16.1	14.3		76.2	17.3	4.4	36.6
135.5	49	2	3	13:11:13	200	49.0	11.4	14.2	15.1	14.2	12.9		67.8	18.6	4.3	29.0
139.2	60	1	5	13:25:18	249	59.0	12.6	16.1	16.8	16.8	17.0		79.3	17.2	4.3	36.5
139.2	59	2	4	13:25:50	251	59.0	11.7	14.1	14.5	13.5	12.8		66.6	18.6	4.2	29.0
138.1	68	1	6	13:38:58	300	68.0	12.4	16.1	15.6	16.4	15.7		76.1	17.3	4.4	36.4
138.1	66	2	5	13:39:12	301	66.0	11.1	14.0	14.5	15.0	13.7		68.5	18.5	4.3	28.7

Recorded By: djw

Verified By: djw

Traffic Sheet 21 (Wheel Load) LTPP MONITORED TRAFFIC DATA WIM SYSTEM TRUCK RECORDS	STATE CODE: SPS WIM ID: DATE: (mm/dd/yyyy):

Pvmt Temp	Radar speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW	A-B space	B-C space	C-D space
130.5	49	1	1	12:28:56	59	49.0	12.2	17.0	16.8	16.2	17.7		79.9	17.3	4.3	36.6
130.5	49	2	1	12:29:20	61	49.0	11.5	13.6	14.3	13.1	13.1		65.7	18.6	4.3	29.0
134.4	59	1	2	12:43:20	107	59.0	12.5	17.0	16.9	17.0	15.3		78.7	17.3	4.4	36.5
134.4	60	2	2	12:43:30	108	60.0	10.9	14.6	14.9	13.7	12.8		67.0	18.5	4.3	29.0
133.1	68	1	3	12:56:46	152	68.0	13.0	17.5	16.4	17.0	16.8		80.7	17.3	4.4	36.5
135.5	49	1	4	13:10:57	199	49.0	12.2	17.1	16.6	16.1	14.3		76.2	17.3	4.4	36.6
135.5	49	2	3	13:11:13	200	49.0	11.4	14.2	15.1	14.2	12.9		67.8	18.6	4.3	29.0
139.2	60	1	5	13:25:18	249	59.0	12.6	16.1	16.8	16.8	17.0		79.3	17.2	4.3	36.5
139.2	59	2	4	13:25:50	251	59.0	11.7	14.1	14.5	13.5	12.8		66.6	18.6	4.2	29.0
138.1	68	1	6	13:38:58	300	68.0	12.4	16.1	15.6	16.4	15.7		76.1	17.3	4.4	36.4
138.1	66	2	5	13:39:12	301	66.0	11.1	14.0	14.5	15.0	13.7		68.5	18.5	4.3	28.7
83.1	49	1	7	7:39:09	2264	49.0	13.2	17.8	17.2	16.9	17.5		82.5	17.4	4.4	36.6
83.1	49	2	6	7:39:21	2265	49.0	12.1	13.2	13.9	13.2	12.1		64.4	18.7	4.3	29.0
86.3	59	1	8	7:53:30	2309	59.0	12.8	17.6	17.1	17.7	16.4		81.6	17.4	4.4	36.8
86.3	60	2	7	7:53:49	2310	59.0	12.3	14.6	15.3	14.4	13.1		69.8	18.8	4.3	29.1
87.5	68	1	9	8:07:11	2362	68.0	13.2	17.5	17.7	17.0	15.1		80.6	17.5	4.4	36.8
87.5	67	2	8	8:07:28	2363	67.0	12.1	13.5	14.4	13.5	12.3		65.9	18.7	4.3	29.0
88.3	49	1	10	8:21:17	2401	49.0	13.6	18.2	17.2	16.0	15.2		80.2	17.4	4.3	36.6
88.3	49	2	9	8:21:36	2402	49.0	11.7	14.1	15.2	13.8	13.4		68.1	18.7	4.3	29.0
90.0	59	1	11	8:35:34	2447	59.0	13.5	17.6	18.1	17.2	18.0		84.4	17.4	4.3	36.7
90.0	60	2	10	8:35:47	2448	60.0	12.2	14.8	16.0	14.6	12.9		70.6	18.7	4.4	29.1
91.0	67	1	12	8:49:20	2486	68.0	13.6	17.4	16.4	16.9	17.0		81.3	17.6	4.4	36.8
91.0	67	2	11	8:49:34	2487	67.0	11.5	14.6	16.0	13.8	13.4		69.4	18.6	4.4	29.1
92.0	49	1	13	9:03:04	2541	49.0	12.7	17.5	17.1	16.5	15.2		78.9	17.4	4.3	36.6

Recorded By: djw

Verified By: djw

Traffic Sheet 21 (Wheel Load)
LTPP MONITORED TRAFFIC DATA
WIM SYSTEM TRUCK RECORDS

STATE CODE:
SPS WIM ID:
DATE: (mm/dd/yyyy):

Pvmt Temp	Radar speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW	A-B space	B-C space	C-D space
92.0	49	2	12	9:03:41	2544	49.0	11.8	13.7	14.3	13.1	12.8		65.7	18.7	4.3	28.9
95.7	59	1	14	9:17:01	2588	59.0	13.2	16.7	15.9	16.9	16.3		79.1	17.4	4.3	36.8
95.7	60	2	13	9:17:18	2590	60.0	12.3	14.1	14.4	14.2	12.5		67.5	18.7	4.3	29.1
109.7	68	1	15	10:04:09	2773	68.0	12.8	16.2	16.3	16.8	14.1		76.1	17.3	4.3	36.6
109.7	66	2	14	10:04:51	2775	66.0	11.9	14.3	15.1	14.0	13.4		68.7	18.7	4.3	29.0
103.6	49	1	16	10:18:01	2819	49.0	13.3	17.7	18.1	16.8	17.7		83.6	17.4	4.3	36.7
103.6	48	2	15	10:19:05	2823	48.0	12.2	14.1	14.7	13.6	13.3		68.0	18.6	4.3	29.0
114.3	59	1	17	10:32:17	2864	59.0	13.3	17.4	15.7	16.7	15.6		78.7	17.4	4.3	36.7
114.3	60	2	16	10:33:01	2867	60.0	11.7	14.5	14.7	13.9	13.0		67.7	18.8	4.3	28.8
115.1	68	1	18	10:45:53	2921	68.0	13.1	17.4	17.0	16.8	16.4		80.6	17.4	4.3	36.6
115.1	66	2	17	10:46:43	2923	66.0	11.6	13.9	15.0	13.8	13.1		67.4	18.7	4.3	29.0
117.8	49	1	19	10:59:38	2987	49.0	12.6	17.2	16.3	17.2	15.9		79.3	17.4	4.3	36.5
117.8	49	2	18	11:01:16	2996	49.0	11.9	13.7	15.1	14.7	12.9		68.3	18.6	4.3	28.8
118.4	60	2	19	11:14:58	3061	60.0	12.3	14.3	15.4	14.0	12.5		68.5	18.8	4.3	29.1
122.4	68	1	20	11:27:28	3111	68.0	12.7	16.3	14.9	16.2	17.8		77.9	17.4	4.3	36.4
122.4	66	2	20	11:29:05	3121	66.0	11.8	13.2	14.5	13.5	12.7		65.7	18.7	4.3	29.1

Recorded By: djw

Verified By: djw

Traffic Sheet 22 LTPP MONITORED TRAFFIC DATA SITE EQUIPMENT ASSESSSMENT LTPP LANE ONLY	STATE CODE: 35 SPS WIM ID: 350100 STATE ASSIGNED ID 0 DATE (mm/dd/yyy) 8/1/2012

SITE EQUIPMENT INFORMATION

1. TYPE OF EQUIPMENT BOTH

2. LANE NUMBER ON SITE 1 **3. DIRECTION ON SITE** north

4. VENDOR IRD **MODEL** iSINC **SERIAL#** 80311781

5. WEIGHING SENSOR TYPE quartz

6. SYSTEM SOFTWARE VERSIONS:

CPU

LOOP LSM

PIEZO KSM

WEIGHPAD/ LOADCELL

COMMUNICATIONS WCU-III

7. CLASSIFICATION VIDEO:

TIME FROM: TO:
TIME FROM: TO:

SITE CONDITIONS

8. PAVEMENT:

Indicate any deficiencies that may affect the performance of the WIM sytem. List all photos on Sheet 24 that support the evaluation.

There were no pavement distresses noted that may affect the accuracies of the WIM system.

Traffic Sheet 22	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
SITE EQUIPMENT ASSESSSMENT	STATE ASSIGNED ID	0
LTPP LANE ONLY	DATE (mm/dd/yyy)	8/1/2012

9. IN ROAD SENSORS:

Describe any deficiencies regarding the sensor installation. Indicate sensors that show any signs of being broken, severely worn, missing, removed, or loose. List photos on Sheet 24 for

the equipment is operating within the manufacturer's tolerances. None of the in-road sensors show signs of damage or excessive wear and appear to be fully secured in the pavement.

TRUCK OBSERVATIONS

10. Indicate any irregular truck behaviors such as bouncing, swerving, or braking near the weighing area (within 40 meters). Note the distance from the weighing sensors.

A visual observation of the trucks as they approach, traverse, and leave the sensor area did not indicate any adverse dynamics that would affect the accuracy of the WIM system. The trucks appear to track down the center of the lane.

Minimum 15 minute or 35 truck sample video sample for pavement interaction deficiencies:

Tape Filename: _____

Time: From: _____ To: _____

Traffic Sheet 22	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
SITE EQUIPMENT ASSESSSMENT	STATE ASSIGNED ID	0
LTPP LANE ONLY	DATE (mm/dd/yyy)	8/1/2012

11. CLASSIFICATION VERIFICATION VIDEO:

TAPE 1- NAME: _____

Interval	Filename	From	To
1			
2			
3			
4			
5			
6			
7			
8			

TAPE 2- NAME: _____

Interval	Filename	From	To
1			
2			
3			
4			
5			
6			
7			
8			

TAPE 3- NAME: _____

Interval	Filename	From	To
1			
2			
3			
4			
5			
6			
7			
8			

Traffic Sheet 22	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
SITE EQUIPMENT ASSESSSMENT	STATE ASSIGNED ID	0
LTPP LANE ONLY	DATE (mm/dd/yyy)	8/1/2012

SYSTEM ACCURACY TESTS

12. CONDUCT THE FOLLOWING SYSTEM ACCURACY TESTS EITHER ON- SITE OR IN OFFICE

Speed Accuracy - Complete Sheet 20 and attach.

Average radar speed 67.3 mph Average WIM Speed 67.8 mph
Mean Difference 0.5 mph SD of mean 0.8

Posted Speed Limit 75 mph
Speed Range 15th percentile - 63 mph 85th percentile- 76 mph

Spacing and Weight - Complete Sheet 21 and attach.

Average distance between axles of drive tandem feet
% error from 4.25 ft (industry average) OR 4.32 ft (WIM system average)
= 1.5 %

Average front axle weight for Class 9 vehicles lbs
% error from 10.3 kips (industry average) OR 11.6 lbs (known site value)
= 13.0 %

SUPPORT EQUIPMENT STRUCTURES

17. Indicate any deficiencies with any site equipment other than the in-road sensors. List all photos on the Sheet 24 for each occurance.

Cabinet/Foundation None ☑

no cabinet or foundation deficiencies

Pull Boxes None ☑

no pull box deficiencies

Mast None ☑

no service mast deficiencies

Solar Panels None ☑

no solar panel deficiencies

Traffic Sheet 22 LTPP MONITORED TRAFFIC DATA SITE EQUIPMENT ASSESSSMENT LTPP LANE ONLY	STATE CODE: 35 SPS WIM ID: 350100 STATE ASSIGNED ID 0 DATE (mm/dd/yyy) 8/1/2012

Telephone D-Mark Box None ☑

no telephone d-mark box deficiencies

Power Service Box None ☑

no power service box deficiencies

Grounding None ☑

no grounding deficiencies

Conduit None ☑

no conduit deficiencies

STATIC AND DYNAMIC ELECTRONIC EQUIPMENT TESTS

18. Complete and attach a Sheet 22 addendum applicable to the installed road equipment.

ADDITIONAL COMMENTS

Electronic tests of the power and communication devices indicated that they were operating normally.

Assessor Dean Wolf

Traffic Sheet 22 Addendum - Kistler Quartz	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
SITE EQUIPMENT ASSESSSMENT	STATE ASSIGNED ID	0
LTPP LANE ONLY	DATE (mm/dd/yyy)	8/1/2012

STATIC EQUIPMENT VALUES (SYSTEM OFF)

1. POWER

a. Solar Panel	160	WATTS	17.9	VDC
b. Equipment Power		VAC		VDC
c. Battery 1	12.9	VDC		
d. Battery 2	12.9	VDC		
e. Regulated	14.1	VDC		
f. Power Supply		VAC		VDC
g. System Input		VAC	11.4	VDC
h. Modem Power		VAC	11.4	VDC
i. Telephone		VDC		

2. LOOP SENSORS

	Resistance		Inductance		Shield	
a. Leading	0.8	Ω	129.4	µh	INF	MΩ
b. Trailing	0.8	Ω	130.5	µh	INF	MΩ

3. KISTLER SENSORS

	Resistance		Capacitance	
a. K1 (lead/left)	10^10	Ω	6.8	ηf
b. K2 (lead/middle)	10^10	Ω	5.7	ηf
c. K3 (lead mid/right)	10^10	Ω	5.8	ηf
d. K4 (lead/right)	10^11	Ω	5.2	ηf
e. K5 (trail/left)	10^10	Ω	6.8	ηf
f. K6 (trail/mid left)	10^10	Ω	6.2	ηf
g. K7 (trail/mid right)	10^10	Ω	6.1	ηf
h. K8 (trail/right)	10^10	Ω	4.4	ηf

DYNAMIC EQUIPMENT VALUES (SYSTEM ON)

4. LOOP SENSORS

	Frequency	
a. Leading	20.3	KHz
b. Trailing	20.4	KHz

5. KISTLER SENSORS

Dynamic testing for the Kistler Quartz sensor is not recommended.

Assessor Dean Wolf

Traffic Sheet 24A LTPP MONITORED TRAFFIC DATA SITE PHOTO LOG - Equipment	STATE CODE: 35 SPS WIM ID: 350100 DATE (mm/dd/yyy) 8/1/2012

Item	Description	Filename
1	Power Source	350100_solar_panel_08_01_12.jpg
2	Telephone Source	350100_cellular_modem_08_01_12.jpg
3	Cabinet Exterior	350100_cabinet_exterior_08_01_12.jpg
4	Cabinet Interior - Front	350100_cabinet_interior_front_08_01_12.jpg
5	Cabinet Interior - Rear	350100_cabinet_interior_back_08_01_12.jpg
6	Leading weight sensor	350100_leading_WIM_sensor_08_01_12.jpg
7	Trailing weight sensor	350100_trailing_WIM_sensor_08_01_12.jpg
8	Leading classification sensor	
9	Trailing classification sensor	
10	Leading loop sensor	350100_leading_loop_08_01_12.jpg
11	Trailing loop sensor	350100_trailing_loop_08_01_12.jpg
12	Downstream from site	350100_downstream_08_01_12.jpg
13	Upstream from site	350100_upstream_08_01_12.jpg
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Traffic Sheet 24B	STATE CODE:	35
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	350100
SITE PHOTO LOG - Test Trucks	DATE (mm/dd/yyy)	8/1/2012

Item	Description	Filename
1	Tractor, Truck #1	350100_Truck_1_Tractor_08_01_12.jpg
2	Trailer/Load, Truck #1	350100_Truck_1_Trailer_08_01_12.jpg
3	Kingpin Offset, Truck #1	
4	Suspension A, Truck #1	350100_Truck_1_Suspension_1_08_01_12.jpg
5	Suspension B, Truck #1	350100_Truck_1_Suspension_2_08_01_12.jpg
6	Suspension C, Truck #1	350100_Truck_1_Suspension_3_08_01_12.jpg
7	Suspension D, Truck #1	350100_Truck_1_Suspension_4_08_01_12.jpg
8	Suspension E, Truck #1	350100_Truck_1_Suspension_5_08_01_12.jpg
9	Suspension F, Truck #1	
10	Tractor, Truck #2	350100_Truck_2_Tractor_08_01_12.jpg
11	Trailer/Load, Truck #2	350100_Truck_2_Trailer_08_01_12.jpg
12	Kingpin Offset, Truck #2	
13	Suspension A, Truck #2	350100_Truck_2_Suspension_1_08_01_12.jpg
14	Suspension B, Truck #2	350100_Truck_2_Suspension_2_08_01_12.jpg
15	Suspension C, Truck #2	350100_Truck_2_Suspension_3_08_01_12.jpg
16	Suspension D, Truck #2	350100_Truck_2_Suspension_4_08_01_12.jpg
17	Suspension E, Truck #2	350100_Truck_2_Suspension_5_08_01_12.jpg
18	Suspension F, Truck #2	
19	Tractor, Truck #3	
20	Trailer/Load, Truck #3	
21	Kingpin Offset, Truck #3	
22	Suspension A, Truck #3	
23	Suspension B, Truck #3	
24	Suspension C, Truck #3	
25	Suspension D, Truck #3	
26	Suspension E, Truck #3	
27	Suspension F, Truck #3	
28	Scale	
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