WIM System Field Calibration and Validation Handout Guide

Arkansas, SPS-2
SHRP ID – 050200

Validation Date: July 9, 2013

Table of Contents

1 Site Information

Site ID:	050200	**State:**	Arkansas
LTPP Region:	Southern	**Configuration:**	Loop – 2 Bending Plates-Loop
Controller Type:	iSINC	**Sensor Type:**	Bending Plate
Power:	AC	**Communication:**	Landline
Class Scheme:	LTPP Mar 06	**CPU type/setup:**	iSINC

2 Contact Information

Agency	Contact	Position	Phone	E-Mail
FHWA	Debbie Walker	COTR	202 493-3068	deborah.walker@dot.gov
FHWA	Frank Lester	Division Office	501-324-6428	lester.frank@dot.gov
RSC	Tim Martin	Project Manager	512-977-1837	tmartin@fugro.com
RSC	Gary Wright	Traffic Contact	512-977-1856	gwright@fugro.com
AR DOT	Mark Greenwood	LTPP Contact	501-569-2552	mark.greenwood@arkansashighways.com
AR DOT	Michael Benson	Traffic Contact	501-569-2185	michael.benson@arkansashighways.com
ARA	Dean Wolf	Task Leader	717-512-6638	dwolf@ara.com
ARA	Olga Selezneva	Project Manager	410-540-9949	oselezneva@ara.com

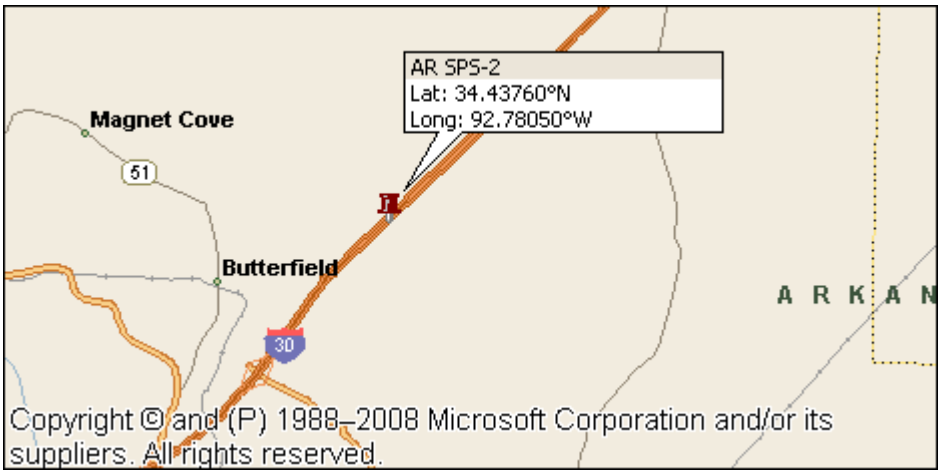
3 Schedule of Events

Date	Event	Location	Start Time
7/8/13	Travel	Bryant, AR	TBD
7/9/13	Test Truck Weigh/Measure/Inspection	CAT Scale	7:00 am
7/9/13	Equipment Assessment	WIM Site	8:00 am
7/9/13	Initial Performance Evaluation	WIM Site	8:30 am
7/9/13	System Test/Class and Speed Study	WIM Site	TBD
7/10/13	Test Truck Weigh	CAT Scale	7:00 am
7/10/13	Calibration/Validation (if required)	WIM Site	8:00 am
7/11/13	Travel	Camp Hill, PA	TBD

4 Maps

4.1 Site Location

Location:	I-30 North of SR74 Overpass, 2.2 miles east of US 270			**Dir:**	WB
Latitude:	34.4376°	**Longitude:**	-92.7805°		

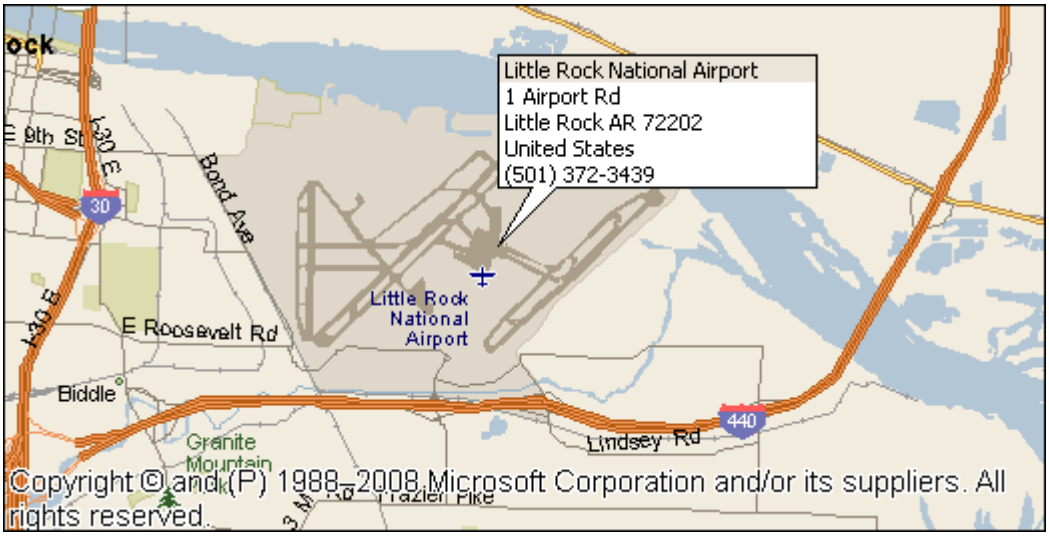


4.2 Truck Scale Location

Name:	JJ's Truck Stop	**Location:**	I-30, exit 106
Latitude:	34.4842°	**Longitude:**	-92.7261°

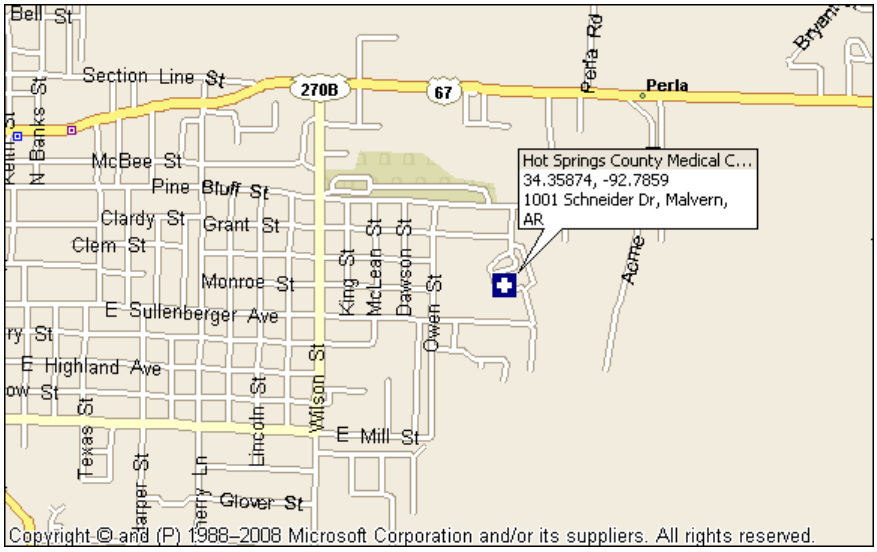
4.3 Airport Location

Name:	Little Rock International Airport	**Location:**	Little Rock, AR
Latitude:	34.7306°	**Longitude:**	-92.2225°



4.4 Hospital Location

Name:	Hot Springs County Medical Center		
Phone:	501-332-1000	**Location:**	1001 Schneider DR, Malvern, AR



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: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

1. ROUTE: I-30 **MILEPOST:** 101.8 **LTPP DIRECTION:** west

2. WIM SITE DESCRIPTION

Grade: <1% Sag Vertical: N
Nearest Upstream SPS Section: 050221
Distance from sensors to SPS Section: 6 miles

3. LANE CONFIGURATION

Lanes in LTPP direction: 2 Median: 3 - grass
Lane width: 12' Shoulder: 3 - paved PCC
Shoulder width: 10'

4. PAVEMENT TYPE PCC

5. PAVEMENT SURFACE CONDITION - Distress Survey

Date: 7/10/13 Photo Filename: 050200_downstream_07_09_13.jpg
Date: 7/10/13 Photo Filename: 050200_trailing_loop_07_09_13.jpg
Date: Photo Filename:

6. SENSOR SEQUENCE

Loop - 2 Bending Plate - 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)* : 1 - Open to Ground
Clearance under plate (in.): 6"
Clearance /access to flush fines from under system: N

Traffic Sheet 17 LTPP MONITORED TRAFFIC DATA WIM SITE INVENTORY	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

10. CABINET LOCATION

Same side of road as LTPP lane: N
Distance from edge of traveled lane: 44 ft
distance from system: 125 ft
type: M

Cabinet access controlled by: Agency and LTPP
Contact name: Roy Czinku Phone # 306-653-6627
Alternate name: Mark Greenwood Phone # 501-569-2552

11. POWER

Distance to cabinet from drop: 550 ft
Type: AC
AC in cabinet? Y
Service provider: Phone #

12. TELEPHONE

Distance to cabinet from drop: 550 ft
Type: landline
Service provider: Phone #

13. SYSTEM

Software and version no. iSINC
Computer connection: Ethernet

14. TEST TRUCK TURNAROUND TIME

Duration: 17 minutes Distance: 18 miles

15. PHOTOS

	Filename
Power source:	050200_solar_panel_07_09_13.jpg
Phone source:	050200_cellular_modem_07_09_13.jpg
Cabinet exterior:	050200_cabinet_exterior_07_09_13.jpg
Cabinet interior:	050200_cabinet_interior_front_07_09_13.jpg
Weight sensors:	050200_leading_WIM_sensor_07_09_13.jpg
	050200_trailing_WIM_sensor_07_09_13.jpg
Other sensors:	050200_leading_loop_07_09_13.jpg
	050200_trailing_loop_07_09_13.jpg
Downstream from sensors on LTPP lane:	050200_downstream_07_09_13.jpg
Upstream from sensors on LTPP lane:	050200_upstream_07_09_13.jpg

Traffic Sheet 18 LTPP MONITORED TRAFFIC DATA WIM SITE COORDINATION	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

1. DATA PROCESSING

a. Download: LTPP download

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 Underground ii. Payment State

g. Communication
i. Type Landline ii. Payment State

3. PAVEMENT

a. Type Portland Concrete Cement

b. Allowable Rehabilitation activities Maintenance only

c. Profile Site Markings Temporary

Traffic Sheet 18 LTPP MONITORED TRAFFIC DATA WIM SITE COORDINATION	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

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: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

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 Basel Abukhater Phone # 716-632-0804
Agency Stantec

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

e. Test Vehicles (trucks, loads, drivers)
Name Ken McConnell Phone # 501-490-1481
Agency McConnell Heavy Hauling

f. Traffic control
Name _____ Phone # _____
Agency _____

g. Enforcement coordination
Name _____ Phone # _____
Agency _____

h. Nearest static scale
Name JJ's Truck Stop Location: I-30, exit 106
Phone: 501-778-2295

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 1	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

CALIBRATION TEST TRUCK - Primary

PART A

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

3. **AXLE WEIGHTS** (1000s lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		11610	11400	Direct
B		15365	15220	Direct
C		15365	15220	Direct
D		16340	16330	Direct
E		16340	16330	Direct
F				

4. **GVW (same units as axles)**
   a. Empty GVW:
   b. Average Pre-Test Loaded weight: 75020
   c. Post Test Loaded Weight: 74500
   d. Difference Post Test - Pre-Tests: -520

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

   b. Make:
   c. Model:

   d. Trailer Load Distribution Description:

   photo: ☑

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

A to B 15.2 B to C 4.3 C to D 34.5 D to E 4.2 E to F

   h. Wheelbase - ☐ Measured ☑ Computed 58.2
   i. Kingpin offset from Axle B (units) .5 photo: ☐
   j. Overall Length - ☑ Measured 63.0

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 1	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

CALIBRATION TEST TRUCK - Primary

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		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:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	7/10/2013

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:	05
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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	11620	15360	15360	16340	16340		75020
2	11600	15370	15370	16340	16340		75020
Avg.	11610	15365	15365	16340	16340		75020

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	11420	15210	15210	16330	16330		74500
2	11380	15230	15230	16330	16330		74500
Avg.	11400	15220	15220	16330	16330		74500

Validation Test Truck Run Set - Pre

Measured By: Kevin Trousdale

Verified By: Dean J. Wolf

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 2	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

CALIBRATION TEST TRUCK - Secondary

PART A

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

3. **AXLE WEIGHTS** (1000s lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		12720	12570	Direct
B		14380	14290	Direct
C		14380	14290	Direct
D		11885	11830	Direct
E		11885	11830	Direct
F				

4. **GVW (same units as axles)**
   a. Empty GVW:
   b. Average Pre-Test Loaded weight: 65250
   c. Post Test Loaded Weight: 64810
   d. Difference Post Test - Pre-Tests: -440

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

   b. Make:
   c. Model:

   d. Trailer Load Distribution Description:

   photo: ☑

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

A to B 20.2 B to C 4.6 C to D 29.5 D to E 10.2 E to F

   h. Wheelbase - ☐ Measured ☑ Computed 64.5
   i. Kingpin offset from Axle B (units) 1.4 photo: ☐
   j. Overall Length - ☑ Measured 67.0

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 2	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

CALIBRATION TEST TRUCK - Secondary

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	11R22.5	air	☑
E	11R22.5	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				

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CALIBRATION TEST TRUCK # 2	DATE (mm/dd/yyyy)	7/10/2013

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	12760	14410	14410	11830	11830		65240
2	12680	14350	14350	11940	11940		65260
Avg.	12720	14380	14380	11885	11885		65250

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	12520	14310	14310	11830	11830		64800
2	12620	14270	14270	11830	11830		64820
Avg.	12570	14290	14290	11830	11830		64810

Validation Test Truck Run Set - Pre

Measured By: _____

Verified By: _____

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 1	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

CALIBRATION TEST TRUCK - Primary

PART A

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

3. AXLE WEIGHTS (1000s lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		11680	0	Direct
B		15375	0	Direct
C		15375	0	Direct
D		16330	0	Direct
E		16330	0	Direct
F				

4. GVW (same units as axles)

a. Empty GVW:
b. Average Pre-Test Loaded weight: 75090
c. Post Test Loaded Weight: 0
d. Difference Post Test - Pre-Tests: -75090

5. TRUCK DESCRIPTION

a. Tractor Cab Style: Conventional Sleeper Cab:
photo: ☑

b. Make:
c. Model:

d. Trailer Load Distribution Description:

photo: ☑

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

A to B 15.2 B to C 4.3 C to D 34.5 D to E 4.2 E to F

h. Wheelbase - ☐ Measured ☑ Computed 58.2
i. Kingpin offset from Axle B (units) .5 photo: ☐
j. Overall Length - ☑ Measured 63.0

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 1	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

CALIBRATION TEST TRUCK - Primary

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		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:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	7/10/2013

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:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	7/10/2013

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	11680	15370	15370	16330	16330		75080
2	11680	15380	15380	16330	16330		75100
Avg.	11680	15375	15375	16330	16330		75090

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
Avg.							

Validation Test Truck Run Set - Cal 1

Measured By: Kevin Trousdale

Verified By: Dean J. Wolf

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 2	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

CALIBRATION TEST TRUCK - Secondary

PART A

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

3. **AXLE WEIGHTS** (1000s lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		12950	0	Direct
B		14465	0	Direct
C		14465	0	Direct
D		11825	0	Direct
E		11825	0	Direct
F				

4. **GVW (same units as axles)**
   - a. Empty GVW:
   - b. Average Pre-Test Loaded weight: 65530
   - c. Post Test Loaded Weight: 0
   - d. Difference Post Test - Pre-Tests: -65530

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

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

A to B 20.2 B to C 4.6 C to D 29.5 D to E 10.2 E to F

   - h. Wheelbase - ☐ Measured ☑ Computed 64.5
   - i. Kingpin offset from Axle B (units) 1.4 photo: ☐
   - j. Overall Length - ☑ Measured 67.0

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 2	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/10/2013

CALIBRATION TEST TRUCK - Secondary

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	11R22.5	air	☑
E	11R22.5	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:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
CALIBRATION TEST TRUCK # 2	DATE (mm/dd/yyyy)	7/10/2013

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

Traffic Sheet 19	STATE CODE:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
CALIBRATION TEST TRUCK # 2	DATE (mm/dd/yyyy)	7/10/2013

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	12980	14440	14440	11830	11830		65520
2	12920	14490	14490	11820	11820		65540
Avg.	12950	14465	14465	11825	11825		65530

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
Avg.							

Validation Test Truck Run Set - Cal 1

Measured By: Kevin Trousdale

Verified By: Dean Wolf

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 1	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/11/2013

CALIBRATION TEST TRUCK - Primary

PART A

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

3. **AXLE WEIGHTS** (1000s lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		11680	11440	Direct
B		15375	15240	Direct
C		15375	15240	Direct
D		16330	16375	Direct
E		16330	16375	Direct
F				

4. **GVW (same units as axles)**
   - a. Empty GVW:
   - b. Average Pre-Test Loaded weight: 75090
   - c. Post Test Loaded Weight: 74670
   - d. Difference Post Test - Pre-Tests: -420

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

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

A to B 15.2 B to C 4.3 C to D 34.5 D to E 4.2 E to F

   - h. Wheelbase - ☐ Measured ☑ Computed 58.2
   - i. Kingpin offset from Axle B (units) .5 photo: ☐
   - j. Overall Length - ☑ Measured 63.0

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 1	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/11/2013

CALIBRATION TEST TRUCK - Primary

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		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:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	7/11/2013

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:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
CALIBRATION TEST TRUCK # 1	DATE (mm/dd/yyyy)	7/11/2013

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	11680	15370	15370	16330	16330		75080
2	11680	15380	15380	16330	16330		75100
Avg.	11680	15375	15375	16330	16330		75090

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	11420	15250	15250	16380	16380		74680
2	11460	15230	15230	16370	16370		74660
Avg.	11440	15240	15240	16375	16375		74670

Validation Test Truck Run Set - Post

Measured By: Kevin Trousdale

Verified By: Dean J. Wolf

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 2	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/11/2013

CALIBRATION TEST TRUCK - Secondary

PART A

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

3. AXLE WEIGHTS (1000s lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		12950	12580	Direct
B		14465	14435	Direct
C		14465	14435	Direct
D		11825	11860	Direct
E		11825	11860	Direct
F				

4. GVW (same units as axles)

a. Empty GVW:
b. Average Pre-Test Loaded weight: 65530
c. Post Test Loaded Weight: 65170
d. Difference Post Test - Pre-Tests: -360

5. TRUCK DESCRIPTION

a. Tractor Cab Style: Conventional Sleeper Cab:
photo: ☑

b. Make:
c. Model:

d. Trailer Load Distribution Description:

photo: ☑

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

A to B 20.2 B to C 4.6 C to D 29.5 D to E 10.2 E to F

h. Wheelbase - ☐ Measured ☑ Computed 64.5
i. Kingpin offset from Axle B (units) 1.4 photo: ☐
j. Overall Length - ☑ Measured 67.0

Traffic Sheet 19 LTPP MONITORED TRAFFIC DATA CALIBRATION TEST TRUCK # 2	STATE CODE: 05 SPS WIM ID: 050200 DATE (mm/dd/yyyy) 7/11/2013

CALIBRATION TEST TRUCK - Secondary

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	11R22.5	air	☑
E	11R22.5	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:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
CALIBRATION TEST TRUCK # 2	DATE (mm/dd/yyyy)	7/11/2013

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

Traffic Sheet 19	STATE CODE:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
CALIBRATION TEST TRUCK # 2	DATE (mm/dd/yyyy)	7/11/2013

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	12980	14440	14440	11830	11830		65520
2	12920	14490	14490	11820	11820		65540
Avg.	12950	14465	14465	11825	11825		65530

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	12560	14450	14450	11860	11860		65180
2	12600	14420	14420	11860	11860		65160
Avg.	12580	14435	14435	11860	11860		65170

Validation Test Truck Run Set - Post

Measured By: _____

Verified By: _____

Traffic Sheet 21 (Wheel Load) LTPP MONITORED TRAFFIC DATA WIM SYSTEM TRUCK RECORDS	STATE CODE: 05 SPS WIM ID: 050200 DATE: (mm/dd/yyyy): 7/10/2013

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	D - E space	E - F space	Axle Length	Overall Length
81.1	54	2	1	7:09:15	25912	54.0	14.2	15.0	14.4	11.0	12.2		66.8	20.1	4.5	29.5	10.2		64.3	67.0
81.1	54	1	1	7:09:17	25913	54.0	12.4	15.3	15.6	16.5	16.6		76.4	15.0	4.3	34.5	4.1		57.9	61.0
81.0	60	2	2	7:25:11	26050	59.0	13.6	14.6	14.9	12.9	11.6		67.6	20.0	4.5	29.4	10.2		64.1	66.0
81.0	60	1	2	7:25:13	26051	59.0	12.3	16.5	16.1	16.0	16.2		77.1	14.9	4.4	34.5	4.1		57.9	61.0
84.5	64	2	3	7:41:05	26183	64.0	13.3	14.7	15.0	12.2	13.0		68.3	20.1	4.5	29.3	10.2		64.1	66.0
84.5	64	1	3	7:41:07	26184	64.0	12.0	15.9	15.8	13.9	15.8		73.3	14.9	4.3	34.7	4.1		58.0	62.0
83.6	55	2	4	7:57:15	26342	54.0	14.0	14.7	14.3	11.5	11.3		65.8	20.1	4.5	29.5	10.2		64.3	67.0
83.6	54	1	4	7:57:17	26343	55.0	12.5	15.3	15.6	15.1	16.1		74.8	14.9	4.3	34.6	4.1		57.9	61.0
83.2	58	2	5	8:13:20	26479	59.0	14.0	14.8	14.9	13.0	12.8		69.5	20.0	4.4	29.3	10.1		63.8	66.0
83.2	59	1	5	8:13:23	26480	60.0	12.3	16.9	16.4	15.3	15.9		76.7	14.9	4.4	34.5	4.1		57.9	61.0
83.3	63	2	6	8:29:08	26617	64.0	13.4	14.6	14.7	12.6	12.0		67.2	20.1	4.5	29.3	10.2		64.1	66.0
83.3	64	1	6	8:29:10	26618	64.0	12.0	15.9	15.6	15.4	16.1		74.9	15.0	4.4	34.6	4.1		58.1	61.0
86.5	54	2	7	8:45:05	26750	54.0	14.0	15.2	15.2	10.7	11.9		67.1	20.1	4.4	29.5	10.1		64.1	67.0
86.5	55	1	7	8:45:08	26751	55.0	12.4	15.3	15.6	16.1	16.5		75.9	14.9	4.3	34.6	4.1		57.9	61.0
86.5	64	2	8	9:16:46	27049	64.0	13.4	14.7	14.9	12.6	12.7		68.4	19.9	4.5	29.2	10.1		63.7	66.0
86.5	64	1	8	9:16:48	27050	64.0	11.6	16.5	15.7	14.5	15.9		74.1	14.9	4.3	34.8	4.0		58.0	61.0
90.2	55	2	9	9:32:26	27196	54.0	14.2	14.6	14.6	12.0	12.0		67.3	20.1	4.5	29.5	10.2		64.3	67.0
90.2	55	1	9	9:32:31	27197	55.0	12.2	15.3	15.2	16.8	16.2		75.6	15.0	4.3	34.6	4.1		58.0	61.0
93.0	60	2	10	9:48:28	27362	59.0	14.1	14.4	15.0	13.3	13.2		70.1	19.9	4.5	29.3	10.1		63.8	66.0
93.0	59	1	10	9:48:33	27363	59.0	12.2	16.5	16.0	15.4	15.3		75.4	14.9	4.4	34.7	4.1		58.1	62.0
94.6	64	2	11	10:04:27	27523	64.0	13.2	14.4	14.6	12.4	13.8		68.5	20.0	4.4	29.3	10.1		63.8	66.0
94.6	63	1	11	10:04:30	27524	63.0	12.3	16.0	15.6	15.5	15.8		75.1	14.9	4.3	34.7	4.1		58.0	62.0
94.6	53	2	12	10:20:42	27687	54.0	13.8	14.5	14.8	11.1	11.5		65.6	20.1	4.5	29.5	10.2		64.3	67.0
94.6	53	1	12	10:20:46	27688	54.0	12.3	15.1	15.6	15.4	16.6		75.0	15.0	4.3	34.6	4.1		58.0	62.0

Recorded By: gh Verified By: djw Run Set Pre

Traffic Sheet 21 (Wheel Load) LTPP MONITORED TRAFFIC DATA WIM SYSTEM TRUCK RECORDS	STATE CODE: 05 SPS WIM ID: 050200 DATE: (mm/dd/yyyy): 7/10/2013

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	D - E space	E - F space	Axle Length	Overall Length
96.5	61	2	13	10:38:37	27866	59.0	14.0	14.9	14.8	13.1	12.6		69.3	20.1	4.5	29.3	10.2		64.1	66.0
96.5	57	1	13	10:38:39	27867	59.0	12.1	16.4	16.1	16.0	15.7		76.4	14.9	4.3	34.8	4.1		58.1	62.0
103.6	54	2	14	10:54:46	28026	54.0	13.9	14.9	14.9	12.1	11.6		67.2	20.1	4.5	29.5	10.2		64.3	67.0
103.6	54	1	14	10:54:48	28027	54.0	12.6	15.2	15.5	15.8	16.2		75.2	15.0	4.3	34.6	4.1		58.0	61.0
103.6	54	2	15	11:11:11	28197	54.0	13.8	14.3	15.3	11.2	11.9		66.4	20.1	4.5	29.5	10.1		64.2	67.0
103.6	54	1	15	11:11:17	28198	55.0	12.0	15.3	15.3	16.0	15.8		74.4	14.9	4.3	34.5	4.1		57.8	61.0
107.0	59	2	16	11:27:08	28358	59.0	13.7	15.7	15.1	12.8	12.8		70.1	19.9	4.5	29.4	10.2		64.0	66.0
107.0	60	1	16	11:27:11	28359	60.0	12.2	16.9	16.2	15.8	15.8		76.9	14.9	4.3	34.6	4.1		57.9	61.0
110.6	64	2	17	11:43:07	28522	64.0	13.3	14.0	14.8	12.6	12.1		66.8	20.1	4.4	29.4	10.2		64.1	66.0
110.6	64	1	17	11:43:10	28523	64.0	11.9	15.7	15.2	15.3	15.7		73.8	14.9	4.3	34.6	4.1		57.9	61.0
111.7	54	2	18	11:59:11	28686	54.0	13.8	14.3	14.5	11.6	11.9		66.2	20.0	4.5	29.5	10.2		64.2	67.0
111.7	54	1	18	11:59:14	28687	55.0	12.4	15.0	15.1	16.0	16.4		75.1	14.9	4.3	34.5	4.1		57.8	61.0
114.0	59	2	19	12:14:57	28847	59.0	14.2	15.0	14.9	11.9	11.6		67.7	20.0	4.4	29.4	10.2		64.0	66.0
114.0	60	1	19	12:14:59	28848	60.0	12.4	16.6	16.0	14.6	15.5		75.0	14.9	4.3	34.6	4.1		57.9	61.0
119.4	64	2	20	12:41:51	29113	64.0	13.1	14.6	14.8	12.4	11.8		66.7	19.9	4.4	29.2	10.1		63.6	66.0
119.4	64	1	20	12:41:55	29114	60.0	12.2	16.8	16.1	16.5	15.9		77.4	14.9	4.3	34.5	4.1		57.8	61.0

Recorded By: gh Verified By: djw Run Set Pre

Traffic Sheet 22 LTPP MONITORED TRAFFIC DATA SITE EQUIPMENT ASSESSSMENT LTPP LANE ONLY	STATE CODE: 05 SPS WIM ID: 050200 STATE ASSIGNED ID 0 DATE (mm/dd/yyy) 7/10/2013

SITE EQUIPMENT INFORMATION

1. **TYPE OF EQUIPMENT** BOTH

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

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

5. **WEIGHING SENSOR TYPE** bending plate

6. **SYSTEM SOFTWARE VERSIONS:**

CPU	
LOOP	LSM
PIEZO	
WEIGHPAD/ LOADCELL	SSM
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:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
SITE EQUIPMENT ASSESSSMENT	STATE ASSIGNED ID	0
LTPP LANE ONLY	DATE (mm/dd/yyy)	7/10/2013

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 LTPP MONITORED TRAFFIC DATA SITE EQUIPMENT ASSESSSMENT LTPP LANE ONLY	STATE CODE: 05 SPS WIM ID: 050200 STATE ASSIGNED ID 0 DATE (mm/dd/yyy) 7/10/2013

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 LTPP MONITORED TRAFFIC DATA SITE EQUIPMENT ASSESSSMENT LTPP LANE ONLY	STATE CODE: 05 SPS WIM ID: 050200 STATE ASSIGNED ID 0 DATE (mm/dd/yyy) 7/10/2013

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 64.5 mph Average WIM Speed 64.0 mph
Mean Difference -0.4 mph SD of mean 1.9

Posted Speed Limit 65 mph
Speed Range 15th percentile - 63 mph 85th percentile- 73 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 4.40 ft (WIM system average)
= 3.4 %

Average front axle weight for Class 9 vehicles lbs
% error from 10.3 kips (industry average) OR 13.0 lbs (known site value)
= 26.0 %

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: 05 SPS WIM ID: 050200 STATE ASSIGNED ID 0 DATE (mm/dd/yyy) 7/10/2013

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

All values for the WIM sensors and inductive loops were within tolerances. Electronic tests of the power and communication devices indicated that they were operating normally.

Assessor Dean J. Wolf

Traffic Sheet 22 Addendum - Weighpad	STATE CODE:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
SITE EQUIPMENT ASSESSSMENT	STATE ASSIGNED ID	0
LTPP LANE ONLY	DATE (mm/dd/yyy)	7/10/2013

STATIC EQUIPMENT VALUES (SYSTEM OFF)

1. POWER

a. Solar Panel		WATTS		VDC
b. Equipment Power	122.3	VAC	11.79	VDC
c. Battery 1	13.47	VDC		
d. Battery 2		VDC		
e. Regulated	13.47	VDC		
f. Power Supply	124.5	VDC	11.95	VDC
g. System Input	124.5	VAC		VDC
h. Modem Power		VAC	11.78	VDC
i. Telephone	44.9	VDC		

2. LOOP SENSORS

	Resistance		Inductance		Shield	
a. Leading	1.4	Ω	121.4	µh	inf	MΩ
b. Trailing	1.7	Ω	180.6	µh	inf	MΩ

3. WEIGHPAD SENSORS

	Input		Output		Shield	
a. Leading	986	Ω	853	Ω	inf	Ω
b. Trailing	986	Ω	854	Ω	inf	Ω

DYNAMIC EQUIPMENT VALUES (SYSTEM ON)

4. LOOP SENSORS

	Frequency	
a. Leading	136.1	KHz
b. Trailing	98.16	KHz

5. WEIGHPAD SENSORS

	Zero Point	
a. Leading	0.2	mV
b. Trailing	-0.1	mV

Assessor Dean J. Wolf

Traffic Sheet 24A	STATE CODE:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
SITE PHOTO LOG - Equipment	DATE (mm/dd/yyy)	7/10/2013

Item	Description	Filename
1	Power Source	050200_solar_panel_07_09_13.jpg
2	Telephone Source	050200_cellular_modem_07_09_13.jpg
3	Cabinet Exterior	050200_cabinet_exterior_07_09_13.jpg
4	Cabinet Interior - Front	050200_cabinet_interior_front_07_09_13.jpg
5	Cabinet Interior - Rear	050200_cabinet_interior_rear_07_09_13.jpg
6	Leading weight sensor	050200_leading_WIM_sensor_07_09_13.jpg
7	Trailing weight sensor	050200_trailing_WIM_sensor_07_09_13.jpg
8	Leading classification sensor	
9	Trailing classification sensor	
10	Leading loop sensor	050200_leading_loop_07_09_13.jpg
11	Trailing loop sensor	050200_trailing_loop_07_09_13.jpg
12	Downstream from site	050200_downstream_07_09_13.jpg
13	Upstream from site	050200_upstream_07_09_13.jpg
14		
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30		

Traffic Sheet 24B	STATE CODE:	05
LTPP MONITORED TRAFFIC DATA	SPS WIM ID:	050200
SITE PHOTO LOG - Test Trucks	DATE (mm/dd/yyy)	7/10/2013

Item	Description	Filename
1	Tractor, Truck #1	050200_Truck_1_Tractor_07_09_13.jpg
2	Trailer/Load, Truck #1	050200_Truck_1_Trailer_07_09_13.jpg
3	Kingpin Offset, Truck #1	
4	Suspension A, Truck #1	050200_Truck_1_Suspension_1_07_09_13.jpg
5	Suspension B, Truck #1	050200_Truck_1_Suspension_2_07_09_13.jpg
6	Suspension C, Truck #1	050200_Truck_1_Suspension_3_07_09_13.jpg
7	Suspension D, Truck #1	050200_Truck_1_Suspension_4_07_09_13.jpg
8	Suspension E, Truck #1	050200_Truck_1_Suspension_5_07_09_13.jpg
9	Suspension F, Truck #1	
10	Tractor, Truck #2	050200_Truck_2_Tractor_07_09_13.jpg
11	Trailer/Load, Truck #2	050200_Truck_2_Trailer_07_09_13.jpg
12	Kingpin Offset, Truck #2	
13	Suspension A, Truck #2	050200_Truck_2_Suspension_1_07_09_13.jpg
14	Suspension B, Truck #2	050200_Truck_2_Suspension_2_07_09_13.jpg
15	Suspension C, Truck #2	050200_Truck_2_Suspension_3_07_09_13.jpg
16	Suspension D, Truck #2	050200_Truck_2_Suspension_4_07_09_13.jpg
17	Suspension E, Truck #2	050200_Truck_2_Suspension_5_07_09_13.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	
29		
30		