

ENTERED AUG 20 2001

<b>SHEET 10</b> <b>LTPP TRAFFIC DATA</b>  <b>TRAFFIC VOLUME AND LOAD</b> <b>ESTIMATE UPDATE-NO SITE COUNT</b>	*STATE ASSIGNED ID	0324
	*STATE CODE	PA
	*SHRP SECTION ID	1599

1. ANNUAL TRAFFIC ESTIMATES

*YEAR	ESTIMATED TOTAL VEHICLES AADT (TWO-WAY)	ESTIMATED TOTAL TRUCK AADT (TWO-WAY)	ESTIMATED TOTAL VEHICLES AADT LTPP LANE	*ESTIMATED TOTAL TRUCKS AADT LTPP LANE	*ESTIMATED ESAL'S/YR LTPP LANE (1000'S)
99	5709	530	1999	184	95

2. METHOD FOR ESTIMATING TOTAL VEHICLE AADT (TWO-WAY)

- ☒ Growth factored last year's estimate. (6)
- ☐ Estimated based on volume counts at nearby locations. (3)
- ☐ Used computerized network analyses. (4)
- ☐ Factored a single count taken this year at the LTPP site. (1)
- ☐ Averaged multiple counts taken this year at the LTPP site. (2)
- ☐ Averaged and factored multiple count taken this year at the LTPP site. (5)
- ☐ Used flow maps. (7)
- ☐ Other: (8) \_\_\_\_\_

3. METHOD FOR ESTIMATING TOTAL TRUCK AADT (TWO-WAY)

- ☐ Used system averages from counts taken this year. (6)
- ☐ Used count data from nearby sites. (3)
- ☒ Used count data from previous years at the LTPP site. (7)
- ☐ Used system averages from previous years. (8)
- ☐ Used computerized network analyses. (4)
- ☐ Used a single count taken this year at the LTPP site. (5)
- ☐ Factored a single count taken this year at the LTPP site. (1)
- ☐ Averaged multiple counts taken this year at the LTPP site. (2)
- ☐ Other: (9) \_\_\_\_\_

4. METHOD FOR ESTIMATING TOTAL VEHICLES LTPP LANE AADT

- ☒ System distribution factors. (2)
- ☐ Based on actual lane count data. (1)
- ☐ Other: (3) \_\_\_\_\_

\*5. METHOD FOR ESTIMATING TOTAL TRUCKS, LTPP LANE, AADT

- ☒ System distribution factors. (2)
- ☐ Based on actual lane data count. (1)
- ☐ Other: (3) \_\_\_\_\_

\*6. METHOD FOR ESTIMATING ESAL/YEAR IN LTPP LANE

- ☐ ESAL/Truck factor (1)
- ☒ ESAL/Vehicle class. (2) (No. of classes) 8
- ☐ ESAL/Axle(3) Sing. \_\_\_\_ Tand. \_\_\_\_ Tri. \_\_\_\_
- ☐ Other: (4) \_\_\_\_\_

7. ESAL ESTIMATES - SOURCE OF DATA

- ☒ Weight data collected at LTPP site prior years. (2)
- ☐ Weight data from system averages this year. (3)
- ☐ Weight data from system averages prior years. (4)
- ☐ Weight data from historic W-4 Tables used. (5)
- ☐ Other: (6) \_\_\_\_\_

8. WEIGHT SCALE TYPE

- ☐ WIM scale. (1)
- ☐ Static scale used for enforcement. (2)
- ☐ Static scale not used for enforcement. (3)
- ☒ Other: (4) NONE

NAME OF PREPARER JOHN PARKER  
 DATE PREPARED 7/23/01

PHONE # 717-787-4327

rev. March 12, 2001

SHEET 13  
TRAFFIC DATA FILES  
TRANSMITTAL FORM

STATE  
STATE CODE

Pennsylvania  
42

FILENAME	START DATE mm/dd/yy	START TIME hh:mm	END DATE mm/dd/yy	END TIME hh:mm	CLASS SCHEME
C421690.D59	2/5/99	00:00	2/11/99	23:00	F
W421690.D59	2/5/99	00:00	2/11/99	23:00	F
C421606.D50	2/5/99	00:00	2/11/99	23:00	F
W421606.D59	2/5/99	00:00	2/11/99	23:00	F
C421599.D59	2/5/99	00:00	2/11/99	23:00	F
W421599.D59	2/5/99	00:00	2/11/99	23:00	F
C421605.DI9	2/19/99	00:00	2/25/99	23:00	F
W421605.DI9	2/19/99	00:00	2/25/99	23:00	F
C421597.E69	3/6/99	00:00	3/12/99	23:00	F
W421597.E69	3/6/99	00:00	3/12/99	23:00	F
C423044.C19	1/1/99	00:00	3/31/99	23:00	F
C421690.C19	1/1/99	00:00	3/31/99	23:00	F
C427037.C19	1/1/99	00:00	3/31/99	23:00	F
C421606.C19	1/1/99	00:00	3/31/99	23:00	F
C421599.C19	1/1/99	00:00	3/31/99	23:00	F
C421605.C19	1/1/99	00:00	3/31/99	23:00	F
C421597.C19	1/1/99	00:00	3/31/99	23:00	F

NAME OF PREPARER  
DATE PREPARED

Denny Williams  
5/11/99

PHONE NO. (717) 787-1840

SHEET 13  
TRAFFIC DATA FILES  
TRANSMITTAL FORM

STATE  
STATE CODE

Pennsylvania  
42

FILENAME	START DATE mm/dd/yy	START TIME hh:mm	END DATE mm/dd/yy	END TIME hh:mm	CLASS SCHEME
C421606.H19	6/1/99	00:00	6/7/99	23:00	F
W421606.H19	6/1/99	00:00	6/7/99	23:00	F
C421599.FR9	4/28/99	00:00	5/4/99	23:00	F
W421599.FR9	4/28/99	00:00	5/4/99	23:00	F
C421605.FS9	4/29/99	00:00	5/5/99	23:00	F
W421605.FS9	4/29/99	00:00	5/5/99	23:00	F
C421597.HN9	6/24/99	00:00	6/30/99	23:00	F
W421597.HN9	6/24/99	00:00	6/30/99	23:00	F
C423044.F19	4/1/99	00:00	6/30/99	23:00	F
C421690.F19	4/1/99	00:00	6/30/99	23:00	F
C427037.F19	4/1/99	00:00	6/30/99	23:00	F
C421606.F19	4/1/99	00:00	6/30/99	23:00	F
C421599.F19	4/1/99	00:00	6/30/99	23:00	F
C421605.F19	4/1/99	00:00	6/30/99	23:00	F
C421597.F19	4/1/99	00:00	6/30/99	23:00	F

NAME OF PREPARER  
DATE PREPARED

Denny Williams  
8/23/99

PHONE NO. (717) 787-1840

**SHEET 16**  
**LTPP MONITORED TRAFFIC DATA**  
**SITE CALIBRATION SUMMARY**

\*STATE ASSIGNED ID [ 324 ]  
\*STATE CODE [ 42 ]  
\*SHRP SECTION ID [ 1599 ]

SITE CALIBRATION INFORMATION

1. \* DATE OF CALIBRATION (MONTH/DAY/YEAR) [ 05/10/1999 ]
2. \* TYPE OF EQUIPMENT CALIBRATED X WIM    CLASSIFIER    BOTH
3. \* REASON FOR CALIBRATION  
X REGULARLY SCHEDULED SITE VISIT    RESEARCH  
   EQUIPMENT REPLACEMENT    TRAINING  
   DATA TRIGGERED SYSTEM REVISION    NEW EQUIPMENT INSTALLATION  
   OTHER (SPECIFY) \_\_\_\_\_
4. \* SENSORS INSTALLED IN LTPP LANE AT THIS SITE (CHECK ALL THAT APPLY):  
   BARE ROUND PIEZO CERAMIC    BARE FLAT PIEZO X BENDING PLATES  
   CHANNELIZED ROUND PIEZO    LOAD CELLS    QUARTZ PIEZO  
X CHANNELIZED FLAT PIEZO X INDUCTANCE LOOPS    CAPACITANCE PADS  
   OTHER (SPECIFY) \_\_\_\_\_
5. EQUIPMENT MANUFACTURER PAT

WIM SYSTEM CALIBRATION SPECIFICS\*\*

6.\*\*CALIBRATION TECHNIQUE USED:

   TRAFFIC STREAM --    STATIC SCALE (Y/N) 3S2 TEST TRUCKS  
   NUMBER OF TRUCKS COMPARED   1   NUMBER OF TEST TRUCKS USED  
  9   PASSES PER TRUCK  
TRUCK TYPE SUSPENSION  
TYPE PER FHWA 13 BIN SYSTEM 1 9 Air  
SUSPENSION: 1 - AIR; 2 - LEAF SPRING 2  
3 - OTHER (DESCRIBE) 3

7. SUMMARY CALIBRATION RESULTS (EXPRESSED AS A PERCENT)

MEAN DIFFERENCE BETWEEN ---  
DYNAMIC AND STATIC GVW -1.67 STANDARD DEVIATION 2.5  
DYNAMIC AND STATIC SINGLE AXLES    STANDARD DEVIATION     
DYNAMIC AND STATIC DOUBLE AXLES    STANDARD DEVIATION   

8. 3 NUMBER OF SPEEDS AT WHICH CALIBRATION WAS PERFORMED

9. DEFINE THE SPEED RANGES USED (MPH) 31 41 22

10. CALIBRATION FACTOR (AT EXPECTED FREE FLOW SPEED) N/A

11.\*\* IS AUTO-CALIBRATION USED AT THIS SITE? (Y/N) N

IF YES, LIST AND DEFINE AUTO-CALIBRATION VALUE: \_\_\_\_\_

CLASSIFIER TEST SPECIFICS\*\*\*

12.\*\*\* METHOD FOR COLLECTING INDEPENDENT VOLUME MEASUREMENT BY VEHICLE CLASS:

   VIDEO X MANUAL    PARALLEL CLASSIFIERS

13. METHOD TO DETERMINE LENGTH OF COUNT: X TIME    NUMBER OF TRUCKS

14. MEAN DIFFERENCE IN VOLUMES BY VEHICLES CLASSIFICATION: N/A

\*\*\* FHWA CLASS 9 \_\_\_\_\_ FHWA CLASS \_\_\_\_\_  
\*\*\* FHWA CLASS 8 \_\_\_\_\_ FHWA CLASS \_\_\_\_\_  
FHWA CLASS \_\_\_\_\_  
FHWA CLASS \_\_\_\_\_

WIM # 324

5/10/99

# Calculating Percent of Non-Conforming Data Items

(must be within +/- 15% for Type II WIM system)

$$d=100[(C-R)/R]$$

d=difference in the value of the data item produced by the WIM system and the corresponding reference value expressed as a percent of the reference value, %

C=value of the data item (truck) produced by the WIM system

R=corresponding reference value for the data item (actual truck weight)

Vehicle class : 9 TRK# 176198 TRL# 2903

Axle 1

10.7	11.7	15.8	4.3	14.9	28.7	15.8	4	13.8
------	------	------	-----	------	------	------	---	------

= 48.75

= 70,940 #

Indicate above: Axle spacings, Axle weights

Pass #	Direction	Speed	C (WIM)	R (Reference)	d (Difference)
1	W	31	66,100	70,940	-4840
2		31	69,700		-1240
3		31	69,800		-1340
4		41	71,800		+860
5		41	70,800		-140
6		41	72,800		+1060
7		22	68,700		-2240
8		22	69,000		-1940
9		22	69,900		-1040
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

-77%  
 -27%  
 -27%  
 +17%  
 -1%  
 +17%  
 -37%  
 -37%  
 -17%

SHEET 16  
LTPP MONITORED TRAFFIC DATA  
SITE CALIBRATION SUMMARY

\*STATE ASSIGNED ID [ 324 ]  
\*STATE CODE [ 42 ]  
\*SHRP SECTION ID [ 1599 ]

SITE CALIBRATION INFORMATION

1. \* DATE OF CALIBRATION (MONTH/DAY/YEAR) [ 11/17/1999 ]

2. \* TYPE OF EQUIPMENT CALIBRATED ☒ WIM ☐ CLASSIFIER ☐ BOTH

3. \* REASON FOR CALIBRATION

☒ REGULARLY SCHEDULED SITE VISIT ☐ RESEARCH  
☐ EQUIPMENT REPLACEMENT ☐ TRAINING  
☐ DATA TRIGGERED SYSTEM REVISION ☐ NEW EQUIPMENT INSTALLATION  
☐ OTHER (SPECIFY) \_\_\_\_\_

ENTERED SEP 12 2009

4. \* SENSORS INSTALLED IN LTPP LANE AT THIS SITE (CHECK ALL THAT APPLY):

☐ BARE ROUND PIEZO CERAMIC ☐ BARE FLAT PIEZO ☐ BENDING PLATES  
☐ CHANNELIZED ROUND PIEZO ☐ LOAD CELLS ☐ QUARTZ PIEZO  
☒ CHANNELIZED FLAT PIEZO ☒ INDUCTANCE LOOPS ☐ CAPACITANCE PADS  
☐ OTHER (SPECIFY) \_\_\_\_\_

5. EQUIPMENT MANUFACTURER PAT

WIM SYSTEM CALIBRATION SPECIFICS\*\*

6.\*\*CALIBRATION TECHNIQUE USED:

☐ TRAFFIC STREAM -- ☐ STATIC SCALE (Y/N) 3S2 TEST TRUCKS

☐ NUMBER OF TRUCKS COMPARED 1 NUMBER OF TEST TRUCKS USED

11 PASSES PER TRUCK

TYPE PER FHWA 13 BIN SYSTEM  
SUSPENSION: 1 - AIR; 2 - LEAF SPRING  
3 - OTHER (DESCRIBE)

TRUCK	TYPE	SUSPENSION
1	9	Air
2		
3		

7. SUMMARY CALIBRATION RESULTS (EXPRESSED AS A PERCENT)

MEAN DIFFERENCE BETWEEN --

DYNAMIC AND STATIC GVW

3.73

STANDARD DEVIATION

3.4

DYNAMIC AND STATIC SINGLE AXLES

5.04

STANDARD DEVIATION

3.5

DYNAMIC AND STATIC DOUBLE AXLES

5.04

STANDARD DEVIATION

3.5

8. 6 NUMBER OF SPEEDS AT WHICH CALIBRATION WAS PERFORMED

9. DEFINE THE SPEED RANGES USED (MPH) 33 28 37 38 41 42

change  
Due to  
GVW Change  
from 72.1 to 71  
email from  
Denny W. HARRIS  
09/19/03

10. CALIBRATION FACTOR (AT EXPECTED FREE FLOW SPEED) N/A

11.\*\* IS AUTO-CALIBRATION USED AT THIS SITE? (Y/N) N

IF YES, LIST AND DEFINE AUTO-CALIBRATION VALUE: \_\_\_\_\_

CLASSIFIER TEST SPECIFICS\*\*\*

12.\*\*\* METHOD FOR COLLECTING INDEPENDENT VOLUME MEASUREMENT BY VEHICLE CLASS:

☐ VIDEO ☒ MANUAL ☐ PARALLEL CLASSIFIERS

13. METHOD TO DETERMINE LENGTH OF COUNT: ☒ TIME ☐ NUMBER OF TRUCKS

14. MEAN DIFFERENCE IN VOLUMES BY VEHICLES CLASSIFICATION: N/A

\*\*\* FHWA CLASS 9

FHWA CLASS

\*\*\* FHWA CLASS 8

FHWA CLASS

FHWA CLASS

FHWA CLASS

11-17-99

PORTAL

Calculating the difference between actual weight and measurement weight  
(must be within +/- 15% for Type II WIM system)

$$d = 100[(C - R)/R]$$

d = difference in the value of the data item produced by the WIM system and the corresponding reference value expressed as a percent of the reference value, %

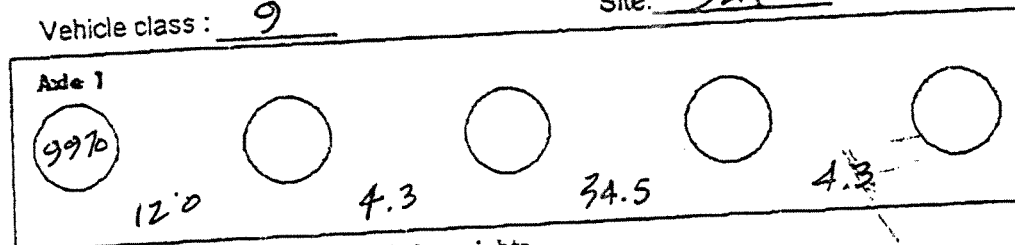
C = value of the data item (truck) produced by the WIM system

R = corresponding reference value for the data item (actual truck weight)

#16 pg. 2.

42 159 a.

11/17/99

Vehicle class: 9Site: 324

Indicate above: Axle spacings, Axle weights

VEH. # Pass # Direction Speed C (WIM) R (Reference) d (Difference)

743	1	W	33	72200	71200	+1.4
780	2	W	33	71800	71200	+0.8
797	3	W	33	76500	71200	+6.0
829	4	W	28	73800	71200	+3.7
850	5	W	28	72100	71200	+1.3
871	6	W	28	73100	71200	+2.7
891	7	W	37	77200	71200	+8.4
910	8	W	38	77300	71200	+8.6
935	9	W	37	78500	71200	+10.3
970	10	W	41	76700	71200	+7.7
991	11	W	42	73500	71200	+3.2
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					

SPEED LIMIT 35 MPH

ADJUSTED CORRECTION FACTOR 3 (SPEED POINT 45) FROM 1000 TO 990